

*The Pragmatics of Possession:
Issues in the Interpretation of
Pre-Nominal Possessives in English*

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Contents

List of Tables	7
List of Figures	7
Abstract	8
Declaration	9
Copyright Statement	10
Acknowledgements	11
1 Introduction	14
1.1 Attributive possession in English	14
1.2 The pragmatics of pre-nominal possessives	15
1.3 Central questions, outline and main findings of the study	20
1.3.1 Central questions	20
1.3.2 Study outline and main findings	21
2 Issues in the pragmatics of pre-nominal possessives	23
2.1 What choices for the possessive relation are available?	25
2.1.1 Descriptivist approaches	26
2.1.2 Generative approaches	27
2.1.3 Outstanding questions	30
2.2 How is a particular possessive relation selected?	32
2.3 What does the sentence containing the NP turn out to mean with this choice of possessive relation?	34
2.4 Outlook	36
3 An empirical study of possessive interpretations	37
3.1 Introduction	37
3.2 Theoretical background	39
3.2.1 Semantic accounts	39
3.2.2 Typological accounts	47
3.2.3 Lexical and pragmatic interpretations defined	48
3.3 An empirical investigation into possessive interpretations	48
3.3.1 Methodological background	48

3.3.2	The study	49
3.3.2.1	Methodology and materials	50
3.3.2.2	Stimuli	51
3.3.2.3	Coding scheme	54
3.3.3	Results	58
3.3.3.1	Absolute frequencies	58
3.3.3.2	Default responses	60
3.3.3.3	Methodological considerations	61
3.4	Discussion	69
3.4.1	The <i>per se</i> existence of default interpretations	69
3.4.2	The existence and plausibility of distinct types and sources of possessive interpretations	73
3.5	Open questions	75
3.6	Conclusion	77
4	<i>Possessive default interpretations at the interface between semantics and pragmatics</i>	79
4.1	Introduction	79
4.2	Defining defaults	80
4.2.1	Default interpretations and context	82
4.3	Possessive defaults	85
4.3.1	Lexical interpretations (revisited)	87
4.3.1.1	Defining null contexts	88
4.3.1.2	Linguistic knowledge vs. world knowledge	89
4.3.1.3	Decontextualised interpretations	91
4.3.2	Grice's inferential model of communication	93
4.3.2.1	Generalised vs. particularised conversational implicature	95
4.3.3	Levinson's presumptive meanings	96
4.3.3.1	Possessives and contextual support	100
4.3.3.2	Multiple defaults	103
4.3.3.3	The <i>locus</i> of the possessive relation	104
4.3.4	Recanati's primary vs. secondary processes	106
4.3.5	Relevance theory	108
4.3.5.1	Main principles	108
4.3.5.2	RT and context	112
4.3.5.3	RT and possessive interpretations	114
4.3.5.4	RT and default interpretations	115
4.4	A working definition of possessive default interpretations	116
4.4.1	Jaszczolt's Default Semantics	117
4.4.2	PDI (re)defined	119
4.5	Concluding remarks	120
5	<i>A functional and discourse-analytic study of pre-nominal possessive NPs in context</i>	122
5.1	Introduction	122
5.2	Pre-nominal possessives as <i>referring expressions</i> and the importance of the linguistic context	124
5.2.1	The present endeavour	127
5.3	Previous studies	128

5.3.1	Pre-nominal possessives as definite expressions: Barker (2000) and Löbner (1998)	128
5.3.2	Corpus studies of pre-nominal possessives: Willemse (2005) and Vikner & Jensen (2003, 2004)	131
5.4	Pre-nominal possessives as <i>reference-point constructions</i>	134
5.5	Possessive referents, discourse status and referent identifiability	139
5.5.1	Possessive referents and the reference-point mechanism	139
5.5.2	Discourse status	142
5.5.3	Referent identifiability	144
5.5.3.1	Construction-external and construction-internal identifiability	146
5.5.3.2	The relationship between construction-external and construction-internal identifiability	149
5.5.4	Interim summary: which role does the linguistic context play in the addressee's determination of the possessive referent?	154
5.6	Conclusion	155
6	<i>A corpus investigation of pre-nominal possessives in context</i>	158
6.1	Introduction	158
6.1.1	Pre-nominal possessives and contextual explication	159
6.1.2	Central questions and outlook	160
6.2	A working definition of context	161
6.2.1	The variability of contextual support	163
6.3	The corpus study	165
6.3.1	Data set	165
6.3.1.1	Original data set	165
6.3.1.2	Final data set	166
6.3.2	Coding scheme	167
6.3.2.1	Co-textual range	167
6.3.2.2	Interpretation group	167
6.3.2.3	Co-textual pointers	169
6.4	Results	175
6.4.1	Univariate analysis	175
6.4.1.1	Interpretation group	175
6.4.1.2	Pointer category	176
6.4.2	Bivariate analysis	177
6.4.2.1	Descriptive statistics	177
6.4.2.1.1	Possessor types and interpretation groups	177
6.4.2.1.2	Interpretation groups and contextual support	179
6.4.2.2	Logistic regression analysis	181
6.4.2.3	Contextual explication in individual interpretation groups	182
6.5	Discussion	187
6.5.1	Methodological caveats	187
6.5.2	The lexical vs. pragmatic distinction	190
6.6	Conclusion	194

7	<i>Towards an account of possessive interpretation in context</i>	196
7.1	Introduction	196
7.2	Key concepts	198
7.2.1	Free enrichment and ad hoc concept construction	199
7.2.2	Saturation and procedural meaning: the standard account	203
7.2.3	Criticism and outlook	205
7.3	Towards a pragmatic account of possessive interpretation	207
7.3.1	The compositional level	208
7.3.1.1	The possessor referent	210
7.3.1.2	The possessum nominal	211
7.3.2	The referential level	213
7.3.2.1	Varieties of saturation in possessive NPs	214
7.3.3	The overall interpretation process: a case description	220
7.3.3.1	The compositional and referential level	221
7.3.3.2	Construction-external and construction-internal identifiability mechanisms	222
7.3.3.3	A relevance-driven comprehension process and the granularity of the possessive relation	223
7.3.3.4	Uses of pre-nominal possessives	226
7.3.3.5	Example of an instance of possessive interpretation as part of the overall comprehension process	228
7.4	A revised notion of saturation?	230
7.4.1	Possessive saturation	232
8	<i>Conclusion</i>	235
8.1	Summary of main findings	235
8.1.1	Intra- and extra-constructional sources and the default nature of possessive interpretations	236
8.1.2	Pragmatic reasoning, context and its operationalisation	237
8.1.3	Relation selection via referent determination	237
8.1.4	A unified description of possessive interpretations	238
8.2	Implications of the findings	238
8.3	Open questions and future research	240
	Bibliography	242

Word count: 86,139

List of Tables

1.1	The structure of English pre-nominal possessives	15
2.1	Alternative proposals of semantic vs. pragmatic workshare in the determination of the possessive relation (from Vikner & Jensen, 2002: 193; Barker, 2010: 9)	28
3.1	Alternative proposals of semantic vs. pragmatic workshare in the determination of the possessive relation (from Vikner & Jensen, 2002: 193; Barker, 2010: 9)	44
3.2	Possible semantic interpretations of pre-nominal possessive NPs (from Vikner & Jensen, 2003: 177)	45
3.3	Characteristics of lexical and pragmatic interpretations	48
3.4	BNC frequencies of noun tokens	53
3.5	Determinative and non-determinative paraphrases across tokens from all five interpretation groups	54
3.6	Absolute frequencies for first, second, third, fourth and fifth responses across all interpretation groups	59
3.7	Distribution of non-determinative paraphrases across interpretation groups	62
3.8	Inherent (a) and non-inherent responses (b) in the Inherent group	64
3.9	Part-whole (a) and non-part-whole responses (b) in the Part-whole group	65
3.10	Producer, telic and other responses in the Producer group	66
3.11	Control (a) and non-control responses (b) in the Control group	67
3.12	Different response types for the Pragmatic group	68
3.13	Number of default interpretations across interpretation groups	69
3.14	Number of items eliciting distinct interpretation types/relations across interpretation groups	72
5.1	The referential structure of pre-nominal possessive NPs (taken from Willemse (2005: 108))	139
5.2	Discourse status and possessee referent identifiability	155
6.1	Distribution of NP types in original data set	165
6.2	Distribution of NP types in final data set	167
6.3	Cross-tabulation of contextual support and interpretation group ($\chi^2 = 335.5201$, $df = 16$, $p \text{ value} < .001$)	179
6.4	Interpretation of ϕ -coefficient (from Rea & Parker, 2014)	181
6.5	Logistic regression analysis of the variables interpretation group and contextual support	181
6.6	Possible retaxonomisation of possessive interpretations	191
6.7	Retaxonomisation of possessive interpretations	193

List of Figures

3.1	Example of an NP token in <i>LimeSurvey</i>	51
4.1	Types of non-natural meaning (based on Huang (2007: 57))	95
5.1	Interdependency of the determination of the possessive relation and the determination of the possessive referent	126
5.2	Reference-point constructions (from Langacker, 1993: 6)	135
5.3	Possession: prototype and schema (taken from Langacker (2003: 94))	137
5.4	Reference-point constructions in context	141
6.1	Univariate distribution of the variable interpretation group	175
6.2	Univariate distribution of the variable pointer category	176
6.3	Univariate distribution of the variable pointer category (Bridging, Predicate-1, Predicate-2 and Text reference collated)	177
6.4	First cross-tabulation of possessor type and interpretation group (percentages) ($\chi^2 = 19.337$, $df = 4$, p value $< .001$)	178
6.5	Second cross-tabulation of possessor type and interpretation group (percentages) ($\chi^2 = 20.8877$, $df = 4$, p -value $< .001$)	179
6.6	Cross-tabulation of contextual support and interpretation group (percentages) .	180
7.1	Interdependency of the determination of the possessive relation and the determination of the possessive referent in pre-nominal possessives	204
7.2	The reference-point mechanism at the compositional level	209
7.3	Relational and referential phase for distinct salient referents	216
7.4	Relational and referential phase for a single salient referent	218
7.5	Summative referent specification in text-referential possessive NPs	225
7.6	The system of phoricity (Martin, 1992: 124, from Willemse, 2005: 92)	226
7.7	Schematic description of explicature and implicature formation in the interpretation of <i>He whipped her glasses from her nose</i> (based on Wilson & Sperber, 2004: 263)	229

Abstract

In everyday conversation, we frequently express relationships between two entities by using attributive possessive NPs. Structurally, these consist of a possessor referent, a possessum nominal and a possessive marker which explicates said relationship. For example, if I want to enquire about a house owned by your friend Mary which you are currently decorating, I might feasibly say “How are you getting on with *Mary’s house*?”. My utterance of the pre-nominal possessive NP *Mary’s house* allows you to represent a specific referent, ensuring that we mentally converge on the same house and are able to talk about it.

This study investigates English pre-nominal possessive NPs from a pragmatic point of view. It does so with the aim of providing a cognitively plausible description of their interpretation which simultaneously serves to understand how they function as referring expressions in communication. In particular, I discuss some of the intricacies they pose to interlocutors when it comes to their referential interpretation. One of these concerns the fact that pre-nominal possessives are semantically compatible with numerous different interpretations, yet reference a particular possessive relation in concrete communicative situations. Thus, given that the English language, quite in contrast to the majority of the world’s languages, does not render the possessive relation that holds between two entities morphosyntactically explicit, the interpretation of pre-nominal possessive NPs falls entirely within the remit of a pragmatic theory.

This should explain how *Mary’s house*, which is compatible with interpretations such as the house that Mary is letting, the house that Mary wishes to buy, as well as various others, comes to denote the house that Mary *owns* in a communicative situation like the above. Fully interpreting this NP, as Peters & Westerståhl (2013) suggest, involves knowing what possible interpretations it gives rise to, selecting the most salient one to the detriment of any others, and, finally, representing a determinate referent denoted by the NP as a whole. While the first aspect has received much attention (e.g. Barker, 1995; Vikner & Jensen, 2002), the other two have been considered by only few researchers.

This study represents the first holistic account of possessive interpretations which combines all three questions to explain the various facets of their pragmatics. On the theoretical level, it suggests that the currently dominant stance (advocated by Vikner & Jensen, 2002), according to which it is the lexical semantic content of the possessum nominal which largely exhausts the interpretation process, is in need of rethinking. Contrary to existing insights, I attribute a greater role to context and pragmatic reasoning both at the level of possible and at the level of salient interpretations. On the methodological level, the study is multimethodological in its approach, complementing theoretical argument by means of a psycholinguistic production study and a large-scale corpus study.

In this respect, the present study paves the way for a description of pragmatic aspects of the English grammar which have hitherto been explained in terms of more descriptive possessive taxonomies, including ones delineating alienable vs. inalienable (e.g. Nikolaeva & Spencer, 2013), prototypical vs. non-prototypical (e.g. Langacker, 1995; Rosenbach, 2002) and lexical vs. pragmatic interpretations (Vikner & Jensen, 2002). Ultimately, I suggest that construing referential interpretation as an addressee-dependent search for relevance (e.g. Sperber & Wilson, 1986/1995) largely obviates the need for taxonomies of this kind at the descriptive level.

Declaration

I declare that no portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Chapter 1

Introduction

1.1 Attributive possession in English

This thesis is concerned, from a theoretical and an empirical point of view, with a number of issues in the pragmatics of attributive possession in English. The term *attributive possession* refers to noun phrase (NP) constructions which link two (typically nominal) expressions, the *possessor* and the *possessum*, to denote a *possessive referent*. The possessor is an entity which controls the possessum in some way. This relationship is called the *possessive relation*, and despite the fact that the term *po-ssessive* strongly evokes connotations of legal ownership, it is not limited to it (Heine, 1997; Tham, 2004): a possessive relation can comprise any relationship which may feasibly hold between a possessor and a possessum and which may at times resemble the notion of ownership only superficially.

It is generally agreed that the English language expresses possession attributively by means of the following constructions:

- a) **Pre-nominal possessives:** e.g. *John's house, Mary's mother, his friend*
- b) **Post-nominal possessives:** e.g. *the father of Peter, the dog of the man over there, the hilarity of the situation*
- c) **Oblique genitives:** e.g. *the friend of Benjamin's, a friend of the Prime Minister's*
- d) **Proper noun modifiers:** e.g. *the Obama government, the Mozart sonata*¹

I shall have little to say about the latter three, devoting my full attention to pre-nominal possessives. These constitute the “purest, most basic and universal manifestation of the reference-

¹Proper noun modifiers are not commonly included in the list of possessive constructions, but their alternation with both pre-nominal and post-nominal possessives suggests that they are not strictly speaking different in at least some of the relations they can express. This is, for instance, evidenced by alternations such as *the Obama government – Obama's government – the government of Obama*. The main difference lies in the covert marking of this relation, as well as potentially in the overall set of expressible relations. This constitutes an ongoing area of research (e.g. Rosenbach, 2007; Breban, Payne & Kolkman, 2015).

point relationship” (Langacker, 1995: 61), a notion which will be of central importance to the present investigation and which I will introduce in section 2.2.

Structurally, pre-nominal possessives are definite NPs which consist of two nominal (and sometimes adverbial) elements, the possessor and the possessum. These are linked either by the *possessive marker* {’s} or its pronominal equivalent, which is blended into the possessor NP (see Table 1.1). Pre-nominal possessive NPs standardly express relations of ownership (*John’s bicycle*), kinship (*your/my/her/etc. parents*), part-whole (*the cliff’s edge*), as well as temporal and spatial relations (*today’s weather*, *Norway’s capital*), undergoer relations (*the city’s destruction*), and numerous others. The precise content of this relation depends to a large extent on the context surrounding the pre-nominal possessive NP, a point which naturally leads me to their pragmatics.

Possessor NP	Possessive marker {’s}	Possessum N
John	’s	bicycle
your/my/her/etc.		parents
the cliff	’s	edge
today	’s	weather
Norway	’s	capital
the city	’s	destruction

Table 1.1: The structure of English pre-nominal possessives

1.2 The pragmatics of pre-nominal possessives

From a pragmatic point of view, pre-nominal possessives are an ideal subject matter of enquiry because their interpretation and comprehension might be argued to pose a number of intricacies to interlocutors. For example, consider the following:

- (1) I don’t like **Mary’s house** – I wouldn’t have gone for that colour roof in the first instance.
- (2) I spoke to **Mary’s mother** recently and she was quite happy to be transferred to a different bedroom.

In (1), despite appearances, it is not immediately clear whether *Mary’s house* refers to the house Mary lives in, the house she rents out, or any other of several conceivable alternatives. This is so because, as Herslund & Baron (2001: 12-13) note, “[w]hereas *Mary has a house* probably only allows one reading, the corresponding attributive construction, *Mary’s house*, allows several [...]” So much so that, they venture, attributive possession usually only *presup-*

poses a given relationship between a possessor and a possessum, whereas this is explicated by overt paraphrases in predicative possession (e.g. ‘has’).

Similarly, although perhaps less obviously so than *Mary’s house*, it is unclear whether *Mary’s mother* in (2) refers to Mary’s own mother or, say, somebody else’s mother she might be looking after as a caretaker in a women’s refuge. Aside from containing the possibility of expressing different types of possessive relations through a single pre-nominal possessive NP, the English language, quite in contrast to the majority of the world’s languages, does not distinguish morphosyntactically between inalienable and alienable possession. These two categories embody the contrast between inherent relations, such as kinship and part-of-whole relations, and terminable, transient possessive relationships, such as ownership and control (e.g. Nichols, 1988; Chappell & McGregor, 1996). The distinction between Mary’s own mother, who is sanguinely related to her, and somebody else’s mother she is looking after, who is related to Mary in merely a transient, associative way, is therefore not coded in the grammar. Taking both facts together, this means that the interpretation of English pre-nominal possessives cannot be explained in grammatical terms. Instead, it ought to be transferred to the remit of a pragmatic theory.

In theoretical pragmatic terms, pre-nominal possessives constitute a prime example of *linguistic underdeterminacy*. This term refers to the idea that, in the majority of cases, the semantics of a linguistic expression does not exhaust the specific meaning to which it is put. On the contrary, it requires substantial pragmatic enrichment in order to be propositional and fully intelligible (e.g. Carston, 2002; Recanati, 2004). Pre-nominal possessive NPs such as *Mary’s house* and *Mary’s mother* are linguistically underdetermined inasmuch as the possessive relationship which renders these phrases meaningful is left implicit (cf. Taylor, 1993; Aitken, 2009). The NPs in isolation then merely signal the availability of some unspecified relation between Mary and a salient house, and Mary and a salient mother, respectively. Their occasion-specific meanings have to be determined in context (e.g. Carston, 2002; Recanati, 2012; Peters & Westerståhl, 2013).

To illustrate this linguistic underdeterminacy further, let us look at some representative examples of the interpretive flexibility that falls out from it. As we saw above, this manifests in two main ways (see also Langacker, 1991; Taylor, 1996; Vikner & Jensen, 2002; Peters & Westerståhl, 2013):

I. DIFFERENT PHRASE, DIFFERENT RELATION:

Firstly, a large number of conceptually different relations are expressible by *different* instantiations of the construction.² Consider the following examples from the British National Corpus

²See e.g. Langacker (1991), Payne & Huddleston (2002), Stefanowitsch (2003) for overviews over what relations may be expressed and which appear to be barred.

(henceforth BNC).³ The bracketed material states the contextually established relationship:

- (3) **John's mother** wrote: 'My Darling John, today is your second birthday away from home and our thoughts are with you every second.' (FS0 285) [KINSHIP]
- (4) On the Friday night I had stayed up to watch the late film, and at 3.30am I decided that it wasn't worthwhile going to bed as I had to be at **John's house** at seven o'clock. (G2Y 285) [CONTROL]
- (5) The ready smile of welcome left **John's face** the moment he saw her. (HP0 2520) [PART-WHOLE]
- (6) 'The poor man was just beginning to pull round after **his operation**,' Keelan said. (A7J 1103) [UNDERGOER]

The relations denoted by the NPs in (3)-(6) are only a small number of the range of different relations expressible by pre-nominal possessives. Even so, they already exemplify a serious issue: given that the possessive marker may in principle express any of these relations, how is one selected over another? We might at this point concede that certain relations are wholly incompatible with certain pre-nominal possessive NPs, e.g. KINSHIP with *his operation* or PART-WHOLE with *John's house*, so that addressees will be able to eliminate certain relations on the basis of the lexical material of any such NP. This is true, but only to a certain extent, since the meaning of a possessive NP is not always constant.

II. SAME PHRASE, DIFFERENT RELATION:

Secondly, thus, a large number of conceptually different relations are expressible by the *same* instantiation of the construction, with no change in lexical material. Peters & Westerstahl (2013: 734) refer to this characteristic as FREEDOM:

FREEDOM

"Every possessive [N]P can be used in a sentence S in a context where that [N]P's possessive relation is none of the options provided semantically by S but instead comes somehow from the context in which the sentence is used."

FREEDOM suggests that a possessive NP with a certain choice of lexical material is not limited to one single relation which may be semantically provided by the lexical meaning of the constructional parts. Fundamentally, it can also express other, not semantically provided relations. For example, the noun *children* semantically encodes a kinship relation and contributes this in some way to the NP *John's children*. But this is not always the case:

- (7) John and Mary are primary school teachers. The other day, they went on a school trip with their Year 1s. **John's children** were particularly well-behaved, but **Mary's** were

³The BNC is a 100 million word corpus of present-day British English. It contains 90 million words of written, and ten million words of spoken English from different contextual settings and from genres such as newspapers, periodicals, fiction, letters and academic prose.

not quite so delightful. [TEACH]

- (8) John babysits for pocket money. **His children** are usually pleasant enough, except when they refuse to go to bed at a sensible hour. [LOOK AFTER]

Examples (7) and (8) illustrate FREEDOM: while the phrase *John's children* ordinarily denotes a kinship relation between John and the children, the surrounding linguistic context in these examples contributes a possessive relation which has little to do with kinship. Because the linguistic context is unbounded, the kinds of relations that are expressible by a pre-nominal possessive NP seem virtually infinite. Taken to its conclusion, this suggests that a phrase such as *John's children* may in principle mean whatever its utterer intends for it to mean. Pre-nominal possessives are, *prima facie*, amenable to a seemingly unpredictable number of interpretations. This holds not only for NPs with different lexical material (*John's leg* vs. *John's mother*), but also, as I just showed, for NPs with identical lexical material.

Ultimately, what this means for the process of possessive interpretation is that, whenever an addressee encounters a pre-nominal possessive NP in communication, she will have to select amongst the set of all possible possessive relations the one relation which is compatible with the context at hand.⁴ The interpretation of pre-nominal possessives then boils down to the process whereby an addressee constructs the occasion-specific meaning of a given pre-nominal possessive NP in online comprehension. Since this process is subject to contextual enrichment, the question that arises is how NPs of the above kind come to mean what they mean in a given context. For example, how does an addressee select, say, an inherent kinship relationship to the detriment of a caretaker relationship for the NP *Mary's mother*?

At a first glance, this is then what possessive interpretation amounts to:

Possessive interpretation:

The process whereby a competent addressee forms a representation of the possessive relationship which holds between a contextually salient possessor referent and a contextually salient possessum entity by selecting a salient possessive relation which is compatible with the context at hand.⁵

While a first definition of possessive interpretation is straightforward, the same cannot be said of its theoretical description. On this matter, Peters & Westerståhl (2013: 754) note that,

“[f]ully interpreting possessive [N]Ps in effect involves answering three questions.

- What choices for the possessive relation are available?
- How is one selected?

⁴For ease of reference, I will be referring to the addressee as *she* and to the speaker as *he*.

⁵Note that, throughout this thesis, I will be assuming a *model* addressee and speaker.

- What does the sentence containing the [NP] turn out to mean with this choice of possessive relation?

The literature contains considerable discussion of how options for the possessive relation arise semantically from constituents of sentences containing a possessive [...] In contrast, little discussion has appeared of how free pragmatic options for the possessive relation arise from context. The first question's answer combines these two sets of options. Choosing among them in answer to the second question is a quintessentially pragmatic process, which seems to be almost entirely unstudied, important and interesting as it is."

This quote suggests two things: firstly, that the answer to the first question has largely been exhausted by the elaborate literature on how the semantic structure of the parts of the construction (e.g. the two-place semantics of *children*) or, failing that, the linguistic context, ensure a possessive NP's interpretability. Secondly, it suggests that the second question, which is concerned with how one relation is selected to the detriment of another, is drastically understudied. The third question, which is rather vague as it is, remains entirely untouched in Peters & Westerstahl's discussion.⁶ In sum, their quote indicates that the knowledge we have of possessive interpretation is both still at an elementary stage and, where it exists, somewhat sketchy at best. As it stands, a comprehensive account of possessive interpretation is still outstanding.

The present study aims to redress this imbalance by addressing all three questions. It does so by establishing a holistic view of possessive interpretation whereby it is the addressee's pragmatic-inferential system which is fully responsible for making possessive relations available, selecting one out of all available ones, and rendering the possessive NP in question meaningful and intelligible as a whole. This contrasts sharply with the current state of the art, represented by Vikner & Jensen's (2002, 2003, 2004) seminal work. They argue that, while some pragmatic inference may be necessary in the interpretation of pre-nominal possessives, the majority of possessive relations are encoded in the lexical semantics of the construction parts and decoded as and when they arise, thereby obviating the need for pragmatic inference. My central aim in this thesis will be to argue that this stance is in need of rethinking. I do so by proposing a theoretically more parsimonious description which centres around the argument that the determination of *all* possessive interpretations uniformly relies on pragmatic reasoning.

⁶This is not entirely true without further qualification. In Peters & Westerstahl's account, this question simply boils down to the formal semantic analysis of possessives. My own interpretation of the question, which I come to in section 2.3, has a more pragmatic orientation.

1.3 Central questions, outline and main findings of the study

1.3.1 Central questions

The central questions guiding the present investigation are broadly oriented along the three overarching questions outlined by Peters & Westerståhl (2013). More specifically, they might be expressed as follows:

1. What intra- and extra-constitucional sources do possessive interpretations arise from, and what is their theoretical status as interpretations that arise ‘by default’?
2. What is the role of context and pragmatic reasoning in possessive interpretation, and how might it be operationalised for the purpose of an empirical investigation?
3. How are particular possessive relations selected in specific communicative situations, and what is the relationship between the determination of salient possessive relations and the determination of salient possessive referents?
4. How may all referential uses of pre-nominal possessives be described in a unified and theoretically parsimonious way?⁷

While the present study is, in the first instance, aimed at providing a usage-based and empirical investigation of pre-nominal possessives in context, it brings together these various lines of enquiry by making use of a number of insights from relevance-theoretic pragmatics (e.g. Sperber & Wilson, 1986/1995, 2005; Wilson & Sperber, 2012; Carston, 1988, 1995, 1998, 2002; Clark, 2014). Relevance theory (RT) is broadly oriented along the post-Gricean, contextualist stance that pragmatic enrichment is required not just in the computation of implicatures, but already penetrates the explicit meaning of an utterance, including the enrichment of pre-nominal possessive NPs. This line of thought is exemplified by the contextualist works of Bach (1994), Recanati (2004, 2010), and innumerable others. My choice of theoretical framework is largely determined by RT’s explanatory scope, which extends beyond mere theoretical plausibility and fundamentally centres around *cognitive* plausibility.

Next, I will present a brief overview of the study and its original contributions, and subsequently delineate how it addresses the above four questions.

⁷While I am concerned with referential uses of pre-nominal possessives, i.e. those that pick out a particular entity in a given context, I remain agnostic about the attributive vs. referential distinction as it pertains to most definite expressions (see in particular Donnellan, 1966; Bezuidenhout, 1997; Rouchota, 1992; Recanati, 1993). How this distinction plays out in possessive interpretation is something that requires further research.

1.3.2 Study outline and main findings

The present study contributes several insights to the linguistic description of the English pre-nominal possessive construction by relating findings from extensive data analysis with theoretical insights from cognitively oriented approaches to meaning in natural language. Its underlying approach is original in two main ways. Firstly, it opens up an important *empirical* angle to what has hitherto only been studied from an introspective point of view. Secondly, it addresses from a *theoretical* point of view a number of more fundamental issues surrounding both the cognitive process of possessive interpretation as well as its theoretical description. These have to date largely been neglected in existing accounts of possessive interpretation. In Chapter 2, I introduce these issues in detail.

To foreshadow the main findings and answers of the present investigation, Chapter 3 considers the question of what and how possessive relations are made available in isolated contexts. Addressing question 1, I present an empirical investigation which tests the hypothesis that certain possessives come with default interpretations, while others do not. I find that default interpretations are available across the board and not limited to so-called lexical possessives. This finding not only leads me to question the idea that the semantic content of the possessum guides the majority of the interpretation process, but also initiates a more serious consideration of the role played by pragmatic reasoning already at the stage at which possessive relations are initially made available.

Chapter 4 follows up on some of the questions arising from my discussion in Chapter 3. It provides the theoretical backbone to its empirical findings by discussing how the term *default interpretation* has been defined in various strands of the semantic and pragmatic literature. In an attempt to inform the first part of question 2, I use the relevance-theoretic notion of the *emergent* context to explain the observed non-uniform tendencies. Finally, I recharacterise the notion of possessive default interpretations in more pragmatic terms. I do so by suggesting that the existence of context-free interpretations is questionable, and that possessive interpretations are better regarded as being contingent upon pragmatic reasoning in the same way as other instances of utterance interpretation.

Addressing question 3, Chapter 5 moves away from isolated possessive NPs by considering their communicative function as *referring expressions*. In particular, I consider pre-nominal possessives in light of R.W. Langacker's (1991, 1993, 1995) account of *reference-point constructions*. Through a discourse-analytic study of numerous corpus examples, I discuss the link between the determination of the possessive relation and the determination of the possessive referent, as well as how reference assignment works *beyond* the schematic reference-point mechanism. The study's central finding is that possessive referents are frequently rendered identifiable through associative linking between the possessive NP and other, co-textually established discourse and real-world referents. This suggests that a complex interplay between

different types of *referent identifiability* renders an underspecified possessive NP referentially indeterminate in natural language contexts. The selection of a particular possessive relation over another is thus construed as epiphenomenal of the determination of the possessive referent.

Chapter 6 further thematises the linguistic co-text as a relational locus which renders possessive NPs meaningful. Testing the hypothesis that different types of pre-nominal possessives require different amounts of contextual support, it presents a large-scale corpus study of 2,889 NP tokens extracted from the BNC. Furthermore, in an attempt to answer the second part of question 2, it seeks to operationalise the notion of *context* in order to tease apart the various ways in which the linguistic context, aside from the process of associative linking established in Chapter 5, aids the addressee in determining salient possessive relations. I find that lexical and pragmatic interpretation groups do not fare significantly differently with respect to the existence of contextual support. On this basis, I suggest a tentative retaxonomy of possessive interpretations according to which they are uniformly determined not by the lexical semantics of the constructional parts, but by the pragmatic context and pragmatic reasoning.

Bringing together the insights from the previous chapters, Chapter 7 addresses question 4 by outlining a pragmatic account of possessive interpretations. Contrary to previous accounts which have been concerned with *possible* interpretations only, this account seeks to understand the nature of *salient* interpretations. I take the stance that *all* possessive interpretations are derived pragmatically by a mixture of world knowledge, considerations of what might be the most likely interpretation in the context, as well as explicit and implicit co-textual explication. Exploiting important theoretical insights from relevance-theoretic pragmatics, I furthermore discuss the notion of *pragmatic saturation* in light of several empirical examples. I argue that its current theoretical rendering ought to be reconsidered in order to accommodate cases in which the possessive relation and/or the possessive referent remain indeterminate, but which nevertheless facilitate the addressee's comprehension of the utterance which contains them. My original commitment (Chapter 5) to the interdependency between the determination of the possessive relation and the determination of the possessive referent is consequently construed as weaker.

Finally, Chapter 8 sums up the main findings of the study and concludes by considering some of the implications of the pragmatic nature of possessive interpretations.

Chapter 2

Issues in the pragmatics of pre-nominal possessives

I established in the previous chapter that an initial definition of possessive interpretation is relatively straightforward. More so, were we to locate it within the bigger picture of what communication involves, it would be just to say that the interpretation of pre-nominal possessives is entirely epiphenomenal of the overall enterprise of linguistic comprehension. As has been well known at least since H.P. Grice's (1975/1989) seminal work shaped the field of pragmatics as the study of meaning in context, this involves substantial inferential enrichment of most utterances as far as both their explicit and their implicit meaning is concerned.

In this chapter, I return to some of the intricacies that the process of possessive interpretation presents to interlocutors. Before I do so, I wish to briefly address a remark made by Storto (2005: 1), which starts out with a valid question:

“Is there anything interesting to be said about the [interpretation] of possessives? Consider the English Saxon genitive [NP] *John's dog*. The meaning conveyed by this [NP] depends on the meaning of the nouns *John* and *dog*: the actual denotation of *John's dog* cannot be determined unless the denotations of *John* and *dog* are known. Still, knowing the meaning of *John's dog* does not amount simply to knowing who John is and what kind of animal a dog is, but even to knowing that the individual denoted by *John's dog* is a dog that stands in a certain relation to the individual called John. Thus three semantic pieces contribute to the meaning of *John's dog*: (i) the meaning of *John*, (ii) the meaning of *dog*, and (iii) a relation holding between the two.”

At this point, the reader may legitimately nod in compassion when Storto asks whether the topic of possessive interpretations is interesting in any way. After all, the meaning of a given possessive NP is no more than the meaning of its parts. From a communicative point of view, possessive interpretation might even be considered a complete ‘non-issue’. For example, the two NPs *her mother* and *her mother's moodswings* in (9), extracted from the BNC, do not seem

to pose a problem as far as their interpretation is concerned:

- (9) **Her mother's moodswings** began to terrify her, and she would slow to a careful frozen walk as she turned into their street. (AOL 262)

Here, despite a) little indication in the linguistic context of what the communicated possessive relations are, and b) the fact that semantically, a vast number of such relations are in theory conceivable candidate interpretations for both NPs, the competent addressee is at no loss to come up with the correct interpretations: the female referent is the offspring of the salient mother, and said mother is the undergoer of the moodswings referred to by the matrix NP. Why, then, should we devote an entire thesis to how possessive interpretation works in communication?

On a closer reading, Storto identifies a number of complexities which are worth considering in greater detail. Firstly, he pinpoints accurately what the overall process of possessive interpretation hinges on: that is, the fact that addressees require knowledge of various sorts in order to grasp the meaning of any pre-nominal possessive NP. On the one hand, this knowledge ought to be *compositional*, taking in the meaning of the parts of the whole expression. Who or what does the possessor nominal denote? Who or what does the possessum nominal describe? And what relation may hold between them? For example, for a phrase such as *John's dog*, the addressee will need to decide who John is, as well as whether the dog is, say, a pet dog or a dog in an animal shelter, and finally what relationship may hold between them. Knowing these three pieces will yield a number of possible interpretations, such that, for example, John is the owner of the dog or that John is its caretaker in the animal shelter.

Typically, however, compositional knowledge of this kind is insufficient since, as the above example illustrates, the same lexical material may express different possessive relations on different occasions. It therefore ought to be complemented by *referential* knowledge, since knowing the meaning of the words *per se* will not suffice for the addressee to identify the possessive relation in question. What she needs additionally is knowledge of the overall possessive referent denoted by the conceptual combination of the possessor referent and the possessum nominal. This is so because the possessum noun is *non-referring* by itself: it only acquires concrete, definite reference via its relation to the possessor referent. Thus, in order for the addressee to form an adequate representation of the precise possessive relationship which holds between John and the dog on any given occasion, she will need to know which precise dog the possessum noun *dog* denotes.

This simple example shows that the process of possessive interpretation is more complex than it appears, subsuming compositional knowledge of the lexical parts of the expression on the one hand, and referential knowledge of their denotata on the other. Pre-nominal possessives are therefore only *partially* compositional. Their meaning cannot be computed as it were “algorithmically” based on the meanings of their parts (Langacker, 2009: 54), because the meaning

of these parts is contingent upon context.

From the addressee's point of view, interpreting a pre-nominal possessive NP is then no mean feat. Not only does she have to take into consideration different types of information about the individual parts of the phrase, she will have to do this in line with the utterance context so as to form a representation of the correct, speaker-intended entity referred to by the NP as a whole. We may thus add this functional-referential dimension to our initial definition of possessive interpretation, and revise it as follows:

Possessive interpretation:

The process whereby a competent addressee forms a representation of the possessive relationship which holds between a contextually salient possessor referent and a contextually salient possessum entity by selecting a salient possessive relation which is compatible with the context at hand *in order to determine a salient possessive referent*.

Under this conception, the determination of the possessive relation is intricately linked to the determination of the possessive referent, and *vice versa*. Of course, these subprocesses happen almost automatically in communication. Yet, as we will see imminently, their theoretical description has proved to be significantly less straightforward than this apparent automaticity might suggest. To reiterate, Peters & Westerståhl (2013: 754) suggest that such a description involves the following three questions:

- What choices for the possessive relation are available?
- How is one selected?
- What does the sentence containing the [N]P turn out to mean with this choice of possessive relation?

To understand better what these questions are asking and what precise issues they pinpoint, I will now address each in turn.

2.1 What choices for the possessive relation are available?

Out of all three questions, this question is undoubtedly the most frequently asked and the one which most previous accounts of possessive interpretation have centred around. Given that pre-nominal possessive NPs are linguistically underdetermined, it is concerned with what possessive relations are available to interlocutors when faced with their interpretation. In other

words, given that the possessive marker is compatible with a seemingly infinite range of possible relations, which are the ones that are made available in specific utterance contexts and give rise to possible interpretations?

2.1.1 Descriptivist approaches

Historically, this question has received considerable attention from a descriptivist point of view, with numerous researchers and traditional grammars attempting to taxonomise the set of all possible expressible relations. In her monograph on the English genitive alternation (*John's book* vs. *the book of John*), Rosenbach (2002) outlines two main approaches to this endeavour: *the semasiological approach*, which starts from the form of possession-expressing constructions, and *the onamasiological approach*, which starts from the meaning of these constructions. The former relies on the identification of all constructions which can express possession, i.e. any relationship which may hold between a possessor and a possessum, with the aim of identifying the range of relations expressible. The latter proceeds in the reverse order, delineating expressible possessive relations before identifying which constructions can express them.

According to Rosenbach, both are inherently flawed. She suggests that the identification of possessive relations is contingent upon the identification of the constructions which express them, and *vice versa*. In other words, if we fail to identify precisely what relations can be expressed, or indeed what is the 'core' relation through which all others may be explained, we automatically fail to discern the constructions which can encode them (→ onamasiological procedure). Similarly, it is difficult to identify possession-expressing constructions unless we have some concept of what possession entails (→ semasiological procedure).

Nevertheless, the semantic sketchiness of possession means that the semasiological approach is more feasible if one is interested in describing the interpretive flexibility of any given construction. Rosenbach observes that this has indeed been the standard approach taken in most treatments of the semantics of the pre-nominal possessive construction. To give a brief example, Poutsma (1914: 41, cited from Taylor, 1996: 6) distinguishes among what he calls the genitive of possession (*my mother's books*), the genitive of origin (*the pheasant's nest*), the subjective genitive (*Elizabeth's reign*), the objective genitive (*Gordon's murder*), as well as the genitive of measure (*an hour's interval*) and the genitive of apposition (*Tweed's fair river*). As Rosenbach (2002: 59) notes, a taxonomic approach to the problem of a possessive semantics is also echoed in modern grammars of English (e.g. Quirk et al., 1985: §5.116; Biber et al., 1999: §4.6.12.3) and numerous studies investigating the variation between pre- and post-nominal possessives (e.g. Leech, Francis, and Xu, 1994; Anschutz, 1997; Stefanowitsch, 2003; Hinrichs & Szmrecsanyi, 2007).

The main issue with taxonomic approaches is that they are somewhat arbitrary and fail to converge on what kinds of relations belong in what category. For example, it is unclear

why a phrase such as *my mother's books* should form a different category to, say, *Elizabeth's reign* (Taylor, 1996: 7; see also Rosenbach, 2002: 59-61 for more examples). Furthermore, taxonomising possessive relations is mainly useful as an empirical tool in quantitative studies of the genitive alternation. However, unless consensus is reached among researchers as to which relations should constitute the common core of possessive relations beyond more clearly definable categories (e.g. alienable/inalienable), this seems a futile endeavour.

2.1.2 Generative approaches

To overcome these problems, a more recent approach has been to regard the pre-nominal possessive construction as *productive*, i.e. as making available a limited range of candidate relations. These are thought to be 'generated' by the parts of the construction itself, and so depend on the compositional meaning of a given NP.¹ In essence, any approach which views possessive NPs as productive is concerned with the *locus* of possible possessive relations: that is, the intra- and extra-constructural sources which make conceptually distinct relations available in different contexts. This locus has varyingly been claimed to originate in a combination of the following three factors (from Koptjevskaja-Tamm, 2008):

The ontological class of the dependent/possessor NP: *the dog's bowl* vs. *my bowl*, i.e. the difference between e.g. animate and inanimate or human and non-human possessors

The semantics of the head/possessum NP: the relational or non-relational status of the head noun, e.g. *John's mother* vs. *John's bowl*

The context: works in combination with the above two according to hitherto unknown principles, e.g. *I'd like to have a plate of Katja's soup* to refer to soup cooked by a mother which is made from fish caught by her daughter Katja

In recent years, a multitude of studies focussing on the compositional semantics of pre-nominal possessives (e.g. Stockwell, Schachter & Partee, 1973; Partee, 1983/1997; Jensen & Vikner, 1994, 1998; Barker, 1995; Partee & Borschev, 1998; Vikner & Jensen, 2002, 2003, 2004) have attempted to provide an account of the workshare between these intra- and extra-constructural sources. These, they claim, influence the availability of possessive relations across contexts. The focus here has been on a combination of the possessum noun and the pragmatic context, resulting in two main proposals:

¹My use of the term *generative* refers to the productive nature of the pre-nominal possessive construction and has nothing to do with the theories of generative grammar or generative semantics.

Barker (1995)/ Partee (1983/1997)	Possessive relation	Vikner & Jensen (2002, 2003, 2004)
Lexical	Inherent (e.g. <i>John's mother, John's weight, ...</i>)	Lexical
	Part-whole (e.g. <i>John's eyes, John's leg, ...</i>)	
Pragmatic	Producer (e.g. <i>John's poem, John's snowman, ...</i>)	
	Control (e.g. <i>John's car, John's sweater, ...</i>)	
	Others (e.g. <i>John's mountain, John's tree, ...</i>)	Pragmatic

Table 2.1: Alternative proposals of semantic vs. pragmatic workshare in the determination of the possessive relation (from Vikner & Jensen, 2002: 193; Barker, 2010: 9)

Both proposals converge on a set of four conceptually distinct kinds of possessive relations that may be expressed by pre-nominal possessives, i.e. inherent, part-whole, producer and control relations, as well as a fifth category which subsumes other, ‘non-stereotypical’ relations. These differ with respect to whether they are made available by intra-constructural (= ‘lexical’) or extra-constructural (= ‘pragmatic’) sources.² Lexical possessive relations are supposedly contributed by the lexical semantics of the possessum noun, while pragmatic possessive relations are thought to be contributed by the context.

One assumption that is implicit in both proposals is the idea that, whenever possessive interpretation hinges on *lexical* sources, “the descriptive content of a possessive depends primarily on the denotation of the possess[um] nominal” (Barker, 1995: 47). In other words, it is first and foremost the possessum noun which steers the search for a plausible relation in line with its semantic structure (Storto, 2005: 60). It is precisely this compositional aspect of the interpretation process which is supposed to narrow down the set of candidate relations that are available in any given context. This holds particularly for semantically relational nouns encoding relations between two entities (e.g. *mother, weight, colleague, eyes, leg*), which primarily give rise to inherent interpretations.

Despite this common ground, the two proposals differ significantly with respect to what constitutes a lexical and what constitutes a pragmatic relation. For Barker and Partee, the lexical vs. pragmatic distinction corresponds to the distinction between relational nouns (e.g. *mother* and *eyes*) and non-relational nouns (e.g. *car* and *mountain*). Lexical relations thus subsume inherent and part-whole relations, which are encoded by relational nouns, while pragmatic relations subsume control, producer and any other relations, all of which have to be determined by means of the pragmatic context. For Vikner & Jensen, most nouns, regardless of whether they

²Note that Barker (1995) and Partee (1983/1997) refer to these two classes as ‘inherent’ and ‘extrinsic’, respectively.

are relational or non-relational, lexically encode possessive relations, and only a small number rely on the linguistic context. Aside from inherent and part-whole relations, their lexical group also subsumes producer and control relations. In other words, the locus of the possessive relation almost always lies in the possessum noun, except for a few minor exceptions, a point I will elaborate on shortly. How are these two proposals motivated?

In essence, they rest upon divergent assumptions concerning the behaviour of the possessum noun with respect to whether the NP which contains it a) gives rise to a ‘default’ interpretation, and b) requires contextual support in order to be interpretable. These assumptions collectively constitute what I will henceforth refer to as *the argument from interpretation*:

The argument from interpretation:

The English language discerns two types of possessive interpretation, called lexical and pragmatic interpretations, based on the following two premises³:

1. There exist interpretational differences and tendencies, such that some pre-nominal possessive NPs receive default interpretations, while others do not.
2. Contextual explication, i.e. the way in which the linguistic context renders the possessive relation explicit, is needed for the interpretation of some pre-nominal possessive NPs, but not of others.

With regard to the first premise, the idea is that all those possessive NPs which are systematically and instantaneously interpretable, as e.g. *Mary’s mother* in (2), are instances of lexical interpretations which stem from the lexical semantics of their possessum noun. As we saw, this is only true of possessive NPs containing relational nouns for Barker and Partee. By contrast, NPs containing non-relational possessum nouns, e.g. *Mary’s house* as in example (1), are thought to be open to a wider range of interpretations, and should therefore be included in the class of pragmatic possessives.

Enter Vikner & Jensen, who argue that even non-relational nouns give rise to a limited number of default interpretations. For example, the NP *Mary’s house* typically yields some or other relation which reduces to the notion of ‘control’ regardless of whether, say, Mary lives in the house or is letting it. By the same token, only a small number of possessum nouns (e.g. *mountain, tree*), which supposedly do *not* give rise to default interpretations when appearing in possessive NP, should be included in the class of pragmatic interpretations. To a large extent, the dividing line between lexical and pragmatic interpretations is then drawn on the basis of whether a default interpretation is available for a given pre-nominal possessive NP (Premise 1).

³Note that I am using the word *premise* in a slightly looser way than how it is used in logic, where it amounts to one of (at least) two propositions which jointly guarantee the truth of the conclusion.

To a lesser extent, it is motivated by the degree to which said NP requires the contextual ‘explication’ of its possessive relation (Premise 2). Contextual explication refers to the various ways in which the linguistic context renders a particular possessive relation concrete. This might, for instance, subsume explicit paraphrases of the relation, e.g. *the tail that is attached to the dog* as opposed to *the dog’s tail*, or *the mother that gave birth to Mary* as opposed to *Mary’s mother*. Here, the argument is that lexical and pragmatic relations, however construed, require varying amounts of contextual support in order to yield their respective default interpretation(s). If lexical interpretations exist, they should be prompted by so-called *null contexts*: that is, contexts which contain no overt explication of the possessive relation, as in the following (from Vikner & Jensen, 2002: 195):

- (10) *the girl’s teacher*
‘the person who is the teacher of the girl’
- (11) *the girl’s nose*
‘the nose which is a part of the girl’
- (12) *the girl’s poem*
‘the poem that the girl has written’
- (13) *the girl’s car*
‘the car that the girl has at her disposal’

All four NPs, representing inherent, part-whole, producer and control relations respectively, supposedly give rise to unambiguous interpretations in the absence of contextual explication. Pragmatic possessives, on the other hand, are thought to require explicit context in order to be interpretable in the first place. This can be seen in (14), where ‘(likes to) climb’ paraphrases the possessive relation.

- (14) John likes to climb mountains in his spare time. **His favourite mountain** is Scafell Pike.

This is, then, the story as told on the basis of the argument from interpretation: the availability of default interpretations, usually in low-information contexts, suggests that at the compositional stage, possessive interpretation relies overwhelmingly on the lexical semantics of the possessum noun. In other words, what possessive relations are available depends on the descriptive content of the possessum noun.

2.1.3 Outstanding questions

Vikner & Jensen’s account sounds plausible and is attractive from an intuitive point of view. Nevertheless, as they themselves concede given the nature of the formal semantic enterprise, their main concern is not with the question of *salient* or ‘actual’ possessive interpretations which

profile a specific possessive referent, but with *possible* interpretations. These correspond to the level of partially compositional interpretations which delimit a specific range of possessive relations. This means that generative accounts disregard the referential-functional aspect of possessive interpretation. Contrary to compositional interpretation, this concerns the question of how addressees come to establish mental contact with a referentially determinate possessum entity by selecting a single possessive relation over any others. To date, we are thus still lacking an account of how salient interpretations, which include both compositional and referential knowledge, are determined in communication.

However, even on the level of possible interpretations, a topic that is important in its own right, the workshare between semantic structure, syntactic composition and pragmatic reasoning has to date not been *empirically* investigated. The argument from interpretation, which forms the methodological basis of Vikner & Jensen's account, is founded upon assumptions which are still largely speculative. For example, the *intuitive* availability of default interpretations in impoverished contexts is taken to be evidence in favour of the decisive role of the possessum noun's lexical semantics in making possessive relations available (*punkt*). Likewise, Vikner & Jensen operate from a rather common sense definition of what constitutes a default interpretation. That is, they neither take into consideration the theoretical debate surrounding the notion itself, nor the role played by default interpretations in utterance comprehension.

Specifically, it is far from uncontroversial that default interpretations which arise from null contexts allow us to reach any conclusions with regard to the semantic content of the possessum noun, let alone whether or not this should be regarded as the most significant factor in the interpretation process. Furthermore, and tying in closely with this hypothesis, is the idea that 'context-free' interpretations exist in the first place. Much like the theoretical rendering of default interpretations, this is more controversial than meets the eye: without further scrutiny, there is no reason not to assume that the 'fast and frugal' interpretation of e.g. *the girl's car* in (13) to denote 'the car that the girl has at her disposal' might simply be construed as a matter of accessible *encyclopaedic* (as opposed to lexical) knowledge arising in the absence of evidence to the contrary.

In sum, not only is Vikner & Jensen's account founded on largely intuitive definitions of two central notions, their account ultimately makes no claims towards having an answer to the other two questions that are fundamental to a full understanding of the pragmatics of pre-nominal possessives. With regard to the question of what choices for the possessive relation are available, I believe that the different ways of taxonomising the workshare between semantic and pragmatic factors, while certainly not trivial, is not only subtle but also largely interesting from a theoretical point of view, with little empirical consequence. Any tangible conclusions we may reach on this debate will therefore merely satisfy the need for some initial building blocks that are required for a *holistic* description of possessive interpretation.

Aside from these, however, the process of possessive interpretation also subsumes an important *functional-referential* dimension. Contrary to the more theoretical debate surrounding Peters & Westerståhl's first question, this dimension manifests itself in communication and is therefore vital for our understanding of the pragmatics of possession. Its significance, however, has been entirely understated in most existing descriptions.

2.2 How is a particular possessive relation selected?

To speak of a functional dimension means speaking of the role a particular interpretive process plays in communication. The main communicative function underlying the process of possessive interpretation, and in particular the selection of a particular possessive relation, is to secure a speaker's reference to an entity in the world. If no such selection is made by the addressee, reference assignment typically fails. What is more, if the addressee wrongly selects a caretaker relation over an ownership relation for an NP such as *John's dog*, miscommunication may arise if the speaker was indeed referring to the dog that is owned by John.

I previously suggested that an adequate description of this selection process exceeds the theoretical machinery of formal semantic accounts. This is so because the determination of the most salient possessive relation cannot proceed on the basis of compositional knowledge alone. It additionally requires *referential* knowledge particularly of the possessum nominal, which in combination with the possessor referent picks out a salient possessive referent. The question of how a possessive relation is selected therefore goes hand in hand with the question of how a particular possessive referent is determined.

While Peters & Westerståhl are right in saying that this question has to date not received much attention, the cognitive-functional literature contains an important account of pre-nominal possessives which provides interesting insights as to how their pragmatic function as *referring expressions* enables the addressee to identify a salient possessive referent. R.W. Langacker (1991, 1993, 1995) analyses pre-nominal possessives as instances of so-called *reference-point constructions*, a term I already mentioned in section 1.1. Reference-point constructions are thought to exploit our more general cognitive ability of establishing mental contact, or *reference* in more traditional linguistic terms, with one entity *via* another, the *reference point*. For example, if A wants to refer to a particular grandson who he knows has been of great help to his grandparents, he is likely to conceptualise this grandson *via* his grandparents, e.g. by uttering:

(15) **The Jones' grandson** has been of great help to them recently.

Langacker's notion of reference-point constructions is relevant to an account of possessive interpretation because it contains the machinery needed to establish how addressees determine possessive referents in natural language contexts. However, it has its limitations, as Langacker

himself (2009: 54; my addition) concedes. He illustrates these by discussing the interpretation of nominal compound expressions, a second type of reference-point construction. As it is,

“[...] the meaning of *mosquito net* cannot be computed algorithmically from the meaning of *mosquito*, the meaning of *net*, and the specifications of the constructional schema. [...] Compounds are non-compositional because of the indeterminacy of reference point relationships. A reference point provides mental access to a wide range of potential targets, so there may be more than one option even with a particular noun [...]. How we actually interpret a compound depends on such factors as context, familiar scenarios, and our ability to imagine new ones.”

Langacker’s argument holds for nominal compounds as much as it holds for pre-nominal possessive NPs. Thus, what the reference-point schema prompts the addressee to do is to seek information *beyond* the meaning of the constructional parts. This is required to take place on the basis of context and other factors, the details of which the existing analysis has regrettably little to say about. Given the indeterminacy of the reference-point relationship, it “[m]inimally [...] merely indicates that one is mentally accessible in relation to the other”, and so “leaves open the precise nature of the connection between possessor and possess[um]” (Langacker, 2009: 55).

Langacker’s account is then as valuable for present purposes as it is insufficient. It is valuable inasmuch as it comes closest to providing us with an account of how addressees identify a possessive referent through its relation to a possessor referent. Ultimately, however, it is insufficient because it is plausible largely at a schematic level. Despite providing us with an idea of the ‘instructional’ nature encoded by the syntactic frame *X’s Y*, within which one entity comes to be linguistically and denotationally related with another entity, it falls short of providing a principled account of precisely how addressees establish this link. In other words, it has little to say about the various types of information addressees draw upon during the interpretation process.

At this stage, the emerging impression that our knowledge of possessive interpretation is still in its infancy, which already fell out from my discussion of Peters & Westerståhl’s first question, should be beginning to strengthen. Aside from the many questions left unanswered regarding the semantic or pragmatic locus of possessive interpretations, we know little about the precise mechanisms underlying the selection of one possessive relation to the detriment of another to establish mental contact with a possessive referent. Against this backdrop, I will now briefly address the final (and hitherto completely untouched) question. This concerns the meaning, speaker-intended or otherwise, that is expressed by the use of a pre-nominal possessive NP in communication.

2.3 What does the sentence containing the NP turn out to mean with this choice of possessive relation?

As I stated previously, Peters & Westerståhl limit this question to the formal semantic analysis of pre-nominal possessives. However, from a pragmatic perspective, it may be reinterpreted to problematise the ‘final step’ in the interpretation process: once the addressee has identified a plausible referent by selecting a particular possessive relation, new conceptual material will enter her representation of the proposition expressed by the speaker. For example, a speaker’s use of a semantically underspecified NP, such as *Mary’s house*, will come to denote a referentially determinate entity in the world. It does so by denoting a particular house which stands in some salient, contextually specified relationship to Mary. How does the addressee represent this referent, and which role does her selection of the possessive relation play in this process?

Let me unpack this question by coming back to the communicative function of pre-nominal possessives, which is to denote a possessive referent. Previously, I have been assuming that the correct selection of the possessive relation plays a central role in the addressee’s grasp of the possessive referent. From a theoretical pragmatic point of view, reference determination proceeds by means of *saturation*, a pragmatic inferential process which fleshes out linguistically marked empty slots in the logical form of a linguistic expression (e.g. Recanati, 2004, 2010; Carston, 2009; Bach, 2012). In pre-nominal possessives, this targets the possessive relation as marked by the underspecified possessive marker. The dominant view (summarised below by Gutzmann (2010: 9; my translation)) is that, in order for the addressee to be able to form a mental representation of the referent denoted by *Mary’s house*, she is required to saturate the possessive relation which holds between Mary and the house.

“[...] the [possessive] relation has to be determined in order for the sentence to receive a truth value. This is so because the relationship between [the possessor phrase] and the [possessum] noun is critical for the reference of the whole NP.”

According to this view, saturation constitutes an *obligatory* process which has to take place in order for incomplete or underdetermined linguistic material to express propositional meaning. As a result, non-propositionality may even impede the comprehension of utterances containing pre-nominal possessives. This is particularly the case when two or more salient referents are to be distinguished. For example, as Gutzmann (ibid.) continues, for a sentence such as *Maria’s car is fast*,

“[...] the car that Maria owns can be a different one from the one she drives. In order to determine which car the speaker refers to, the hearer has to determine the genitive relation. Only when she knows which car is being referred to can she decide whether or not the car is fast.”

This example is reminiscent of Storto's dog example. However, whilst intuitively correct, Gutzmann's view is rather absolute. It fundamentally ignores cases in which just a single referent is salient in the utterance context. As I will show imminently, it is not clear in such cases that reference assignment proceeds in the same way, i.e. by way of the addressee selecting a particular possessive relation. A related problem with this view is that it relies on the recognition of speaker meaning. According to Recanati (2004: 63), "[t]here is no other way to determine contextually a value for the genitive, than by appeal to a speaker's meaning." If this was true, there should be cases in which a pre-nominal possessive NP fails to secure reference to a salient possessum entity *unless* the addressee recovers the speaker's intended possessive relation. Yet, this suggests a rather idealistic picture of intention recognition whereby the speaker's intended meaning is always straightforwardly inferrable by the addressee. In light of examples such as the following, where the speaker's meaning might not be so easily recoverable, and where just a single referent is salient in the context, this seems questionable:

John and Julia are in John's office for a supervisory meeting and are waiting for Martina to join. A large and healthy-looking basil plant, which John tells Julia he was given as a present by a colleague, is the centrepiece of the office, filling the whole room with a nice smell. When Martina enters the room, she can't help but notice the plant, to which Julia replies:

(16) Isn't **John's basil plant** impressive?

Arguably, Julia's communicated meaning is based on her own grasp of the basil plant, which includes all the information she can access about it. However, unbeknownst to Martina, who sees the basil plant for the first time, this information is unlikely to feature in her representation of the possessive relation. What this amounts to should be much less determinate, perhaps along the lines of 'the basil plant that is on John's desk'. Her selection of this relation thus crucially depends not on recognising Julia's intended meaning, but on the plant's physical salience in the context. More so, this loose representation of the possessive relation might be argued to *suffice* for Martina's comprehension of Julia's utterance. In other words, the precise relationship, such that John received the plant from a colleague and is now looking after it, which objectively holds between John and the basil plant, does not, for communicative purposes at least, have to feature in Martina's representation.

To present something short of a complete answer to Peters & Westerståhl's third question, a possessive relation may be represented in a looser, less determinate way than what previous accounts have suggested. A sentence containing a possessive NP may therefore turn out to mean something less than fully propositional as long as the addressee's comprehension of the utterance as a whole is secured. Because linguistic comprehension rests on expectations of what information is the most relevant in the communicative situation at hand, full propositionality is not necessarily a prerequisite.

While tentative, cases like the above appear to threaten the dominant stance according to which the determination of the speaker-intended possessive relation is necessary for the determination of the referent. It seems that, unless two or more salient referents are to be distinguished, referential knowledge is attainable in ways other than by means of selecting one particular possessive relation over another. If this is accurate, it will be necessary to reconsider the way in which the notion of saturation has been characterised in the pragmatic literature, and suggest that its obligatoriness may not be absolute but rather depend on the communicative demands of the utterance situation. This study will take a first step towards such a recharacterisation.

2.4 Outlook

As I hope to have sketched successfully here, the pragmatics of attributive possession is both multidimensional and complex. In order to paint a coherent picture of how possessive interpretation works both from a theoretical and a communicative point of view, all three of Peters & Westerståhl's questions require (more) satisfactory answers. This thesis will address the gaps that have remained in existing answers, and provide insights on those that have not previously been attempted. It does so by relating the three questions in a meaningful way, beginning with the former in the next chapter.

Chapter 3

An empirical study of possessive interpretations

3.1 Introduction

The present chapter is concerned with the question of what possessive relations are made available in concrete utterance situations in the interpretation of linguistically underdetermined possessive NPs. This question concerns the level of *possible* interpretations. Their empirical and theoretical description is vital to an account of possessive interpretation since, from a communicative point of view, they might be argued to narrow down the set of possessive relations that interlocutors are required to evaluate before settling on a salient interpretation which is compatible with the context at hand. In previous research, possible possessive interpretations have mostly been described in terms of *default interpretations*: that is, interpretations which are arrived at automatically and without appeal to pragmatic reasoning. Due to their automatic nature, what possessive relations are made available has subsequently been argued to depend primarily on intra-constructural lexical sources that form part of the possessive NP itself, i.e. the possessum noun and the possessive marker.

Both the present and the next chapter will scrutinise this argument as it has been used to describe the existence of conceptually distinct sets of possible interpretations. These are straightforwardly discernible for the majority of pre-nominal possessive NPs even when the context contains no direct information as to their precise content. For example, *John's novel* gives rise to two default interpretations along the lines of 'the novel John is reading' and 'the novel John has written'. It does so despite the fact that no supporting context appears to be present which might prompt these two interpretations. In this chapter, I present the results of a psycholinguistic production study into possessive interpretations. This study sets the scene for the remainder of this thesis by establishing what kinds of possible interpretations are available for a representative range of possessive NPs.

The study was designed with the aim of addressing the first premise of the argument from interpretation, according to which the availability of default interpretations allows conclusions with regard to the intra- or extra-constructural locus of a given possessive relation. As mentioned in the previous chapter, this argument is implicit in a number of existing accounts of possessive interpretation which are steeped in the formal semantic tradition. These accounts employ such interpretational tendencies as the methodological foundation for the claim that possible interpretations of many pre-nominal possessive NPs are determined, and in large part exhausted, by the semantic content of their possessum noun.

The present investigation consists of a production study in which native speakers of English were asked to paraphrase pre-nominal possessive NPs in simulated *null contexts*. These are bare contexts which contain no explication of the possessive relation which holds between their possessor and possessum, or indeed any other (overt) information. Most fundamentally, the study was aimed at eliciting interpretational tendencies on the part of addressees, and thereby to establish whether the kind of type-based and – allegedly – context-independent interpretations that are so readily available upon introspection and that provide the backbone of existing taxonomies of possessive interpretations, are also reflected empirically.

Where the intuitive existence of such interpretations has given rise to a distinction between two types of possessive interpretation, labeled *lexical* and *pragmatic* interpretations respectively (Vikner & Jensen, 2002, 2003, 2004), more typologically oriented accounts have interpreted these default tendencies as supporting the distinction between *alienable* and *inalienable* possession in English (e.g. Lichtenberk et al., 2011; Nikolaeva & Spencer, 2013). This concerns the conceptual distinction between things or qualities that can be dissociated from their owner (pets, artefacts, food items, etc.) and those that cannot (body parts, blood relatives, etc.). While terminologically subtle, both types of account postulate the existence of two distinct types of possessive interpretation. Regrettably, but with the exception of Lichtenberk et al.'s (2011) psycholinguistic study, this claim has to date only been investigated from an *introspective* point of view. The present investigation therefore builds on existing insights gained from Lichtenberk et al.'s study by expanding its methodology and re-examining the debate surrounding the *locus* of possessive relations.

I begin this chapter in section 3.2 with an overview of existing accounts concerned with possible possessive interpretations, focussing on Vikner & Jensen's (2002) seminal account. This centres around the question of what possessive relations are made available prior to the actual interpretation of possessive NPs in concrete utterance situations. Despite its focus on their compositional semantics, it offers interesting insights into the question of what semantic and pragmatic sources feed into the interpretation process. This issue is of direct relevance to the question of what, as well as how, possessive relations become available during the initial stages of the interpretation process. Subsequently, section 3.3 presents the methodology and the

results of the empirical investigation. I then discuss these results in light of their significance for the empirical validity of Vikner & Jensen's claims in section 3.4. There, I ask in particular whether the existence of default interpretations in null contexts allows conclusions with regard to different sources of such interpretations. Section 3.5 delineates a number of open questions that fall out from the results. Section 3.6 concludes.

I find that the majority of the NPs that participants were asked to paraphrase received systematic interpretations which are mostly in line with those predicted by Vikner & Jensen (2002). Inherent and part-whole interpretations were reflected most consistently across the five groups, with the Control and the Producer group reflecting similarly stable interpretations across participants. However, whenever a producer interpretation was available, a corresponding control interpretation was usually also available to the majority of participants. This finding leads me to question the special status of producer interpretations in a taxonomy of possessive interpretations. Contrary to expectations, I also find that NPs which are *not* thought to give rise to default interpretations in the absence of context elicited a number of systematic interpretations. On this basis, I tentatively suggest that the picture painted by existing accounts may be too complex. I argue instead that possible possessive interpretations appear to be determined not by the decoding of semantic content, but by appeal to pragmatic reasoning. It is precisely this kind of reasoning which, as I will anticipate, makes available the kind of possible interpretations that have to this point been deemed semantic in nature. If my line of argument is correct, it will open up the possibility of a more theoretically parsimonious account which does not need to postulate different interpretational sources.

3.2 Theoretical background

3.2.1 Semantic accounts

It is frequently claimed in the semantic literature on pre-nominal possessive NPs that their meaning is by and large determined by the semantics of the constructional parts. These, in turn, make available a limited number of candidate interpretations. Different versions of this claim can be found in the works of Partee (1983/1997), Barker (1995), and Vikner & Jensen (2002, 2003, 2004). Fundamentally, the claim derives from the strong tendency for numerous such phrases to yield straightforward interpretations in the absence of linguistic context. The below are only a few examples:

- (17) *John's mother*
'the mother that is a parent to John'
- (18) *John's teacher*
'the teacher that teaches John'

- (19) *John's pen*
 'the pen that John writes with/owns'
- (20) *John's bed*
 'the bed that John sleeps in/owns'

What all four NPs in examples (17)-(20) indicate is that, despite the lack of contextual explication of the respective possessive relation which holds between John and the mother, teacher, pen and bed, we are at no loss to come up with perfectly adequate representations of possible entities they may denote. This tendency has led a number of researchers to stipulate the existence of so-called *lexical* interpretations, i.e. interpretations which are based on relations that are encoded in the lexical entry of the possessum noun or in the possessive marker.

Thus, the above interpretations are supposedly determined without the need to resort to referential knowledge that may be arrived at by some kind of pragmatic reasoning process discerning plausible possessive referents. By contrast, where a possessive NP does not immediately give rise to a default interpretation, as in (21)-(23) below, it is thought to require help from the linguistic context in order to be fully interpretable.

- (21) *John's sunbeam*
 'the sunbeam that John... ?'
- (22) *John's day*
 'the day that John... ?'
- (23) *John's tree*
 'the tree that John... ?'

In the presence of such context, it gives rise to a *pragmatic* interpretation. Contrary to its lexical counterpart, this depends on considerations of what is the most *likely* relation. Information to this end must be culled from the linguistic context surrounding the NP. Because none is present in the above, the interpretation process should be significantly less straightforward than in the case of lexical interpretations.

Generally, pragmatic interpretations are thought to arise via the context when a possessum noun lacks certain meaning attributes that could be meaningfully related to those of the respective possessor noun, as in (21)-(23). They may also arise when a default interpretation arising from a lexically encoded relation needs to be 'overridden', as in (24) (from Vikner & Jensen, 2002: 211), with the contextually relevant parts underlined):

- (24) Someone tapped him on the arm, and as Quinn wheeled to meet the assault, he saw a short, silent man holding out a green and red ballpoint pen to him. Stapled to the pen was a little white paper flag, one side of which read: "This article is the Courtesy of a DEAF MUTE. Pay any price. Thank you for your help." (...) Quinn reached into his pocket and gave the man a dollar. (...) Using the pen he had bought from the deaf mute, he set about his tasks with diligence. (...) With **the deaf mute's pen** in his right hand...

The linguistic context in (24) appears to override the default interpretation of ownership to the effect that the deaf mute owns the pen, and thereby gives rise to a pragmatic interpretation along the lines of ‘the pen that was bought from the deaf mute’ or ‘the pen that was previously in possession of the deaf mute’.

The dividing line between what constitutes a lexical and a pragmatic interpretation respectively has been the subject of considerable debate. The original idea, suggested by Partee (1983/1997) and Barker (1995), is that the lexical semantics of relational nouns (*mother*, *teacher*, etc.) and non-relational nouns (*pen*, *bed*, etc.) is responsible for the interpretational tendencies exhibited by individual possessive phrases. Thus, relational possessum nouns are thought to give rise to more systematic and unambiguous interpretations than non-relational ones, for which other interpretations are easily imaginable (e.g. ‘the pen that John has borrowed’, ‘the bed that John dreams of having’, etc.). This is so because relational nouns, by virtue of encoding a relation between two entities x and y , are thought to provide the possessive relation *directly*. Non-relational nouns, by virtue of being monadic, one-place predicates which denote sortal concepts not intrinsically related to another concept, arguably need to be supported contextually in order to contribute a meaningful relation to a possessive NP and the utterance situation at hand.

Under this conception, only examples (17) and (18), which contain relational possessum nouns, would be said to yield unambiguous interpretations that warrant a treatment in terms of lexical interpretations. Examples (19)-(24), which contain non-relational possessum nouns, could conceivably also prompt a number of other, equally plausible interpretations, thus constituting instances of pragmatic interpretations. Such a split approach, in which some possessive relations are derived construction-internally while others are supplied construction-externally (contextually), has been criticised by Vikner & Jensen (2002). In particular, they argue that it makes the wrong predictions with regard to the availability of default interpretations.

Much like the accounts of Barker and Partee, Vikner & Jensen’s account takes as its methodological foundation the availability of default interpretations in contexts which do not contain any indication of the possessive relation. However, *pace* Barker and Partee, the fact that other plausible interpretations are conceivable does not diminish the more privileged character of some interpretations over others. For example, for an NP like *John’s bed*, ‘the bed that John sleeps in/owns’ is privileged over, say, ‘the bed that John dreams of having’ or ‘the bed that John saw in the catalogue the other day’. For Vikner & Jensen, this puts privileged non-relational interpretations on a par with the relational interpretations in (17) and (18). This, they argue, warrants their status as lexical interpretations.

To illustrate that the relational semantics of possessum nouns is not the sole determinant of lexical interpretations, Vikner & Jensen operate on the basis of examples such as the following:

(25) **John’s mother** is beautiful.

- (26) Have you seen **John's bed**? It's rather extravagant.
(27) Well, if you ask me, I think John should probably trim **his tree** at some point.

Examples (25) and (26) contain a relational and a non-relational possessum noun respectively. Despite the predictions made by Barker's and Partee's split accounts, both are equally intelligible from the point of view of what possessive relations hold between John and the mother/the car: *John's mother* in (25) plausibly refers to John's own mother as opposed to, say, the mother he regularly paints, while *John's bed* in (26) immediately gives rise to an ownership or control-type scenario. This is so despite the fact that the context contains little information to that effect. By contrast, the same cannot be said for (27), since the context is not rich enough to provide a salient relation between John and the tree in question. In sum, while some degree of contextual enrichment appears to be necessary to derive a plausible interpretation in (27), the interpretation of (25) and (26) appears to proceed effortlessly in its absence. Some non-relational possessum nouns therefore do not require overt contextual support as much as others, which justifies their inclusion in the class of lexical possessives.

On the basis of this intuitive evidence, Vikner & Jensen argue that the majority of possessive relations – even those that non-relational nouns enter into – should be considered as giving rise to lexical interpretations. They propose a unitary account which views the required input from context and pragmatic reasoning to the determination of possible possessive interpretations as minimal. This step is justified by appeal to the lexical semantics of both relational and non-relational nouns, which in Vikner & Jensen's account is couched within a generative theory of word meaning called *Generative Lexicon Theory* (henceforth GLT) (Pustejovsky, 1991, 1995).

In the GLT, lexical items are viewed as consisting of various representational layers which are responsible for different aspects of their meaning: *argument structure* (e.g. predicate valency, number of arguments associated with various slots in the logical form of a word), *event structure* (the classification of events into states, transitions and processes), *inheritance structure* (relations among lexical items in the lexicon), and finally *qualia structure*. The latter is the most central component in Vikner & Jensen's description of possessive interpretation, and one which I will elaborate on shortly.

The GLT predominantly deals with cases of logical metonymy such as *John started a novel*. Similar to the readership and authorship interpretations of the possessive NP *John's novel*, this sentence is readily understood to mean that John started *reading* the book or that he started *writing* it. Occasion-specific meanings of words such as *start* to mean 'start writing' or 'start reading' are explained through the postulation of complex lexical-semantic rules, the details of which I will neglect here (but see e.g. Asher, 2011; Falkum, 2011a, 2011b). Against this background, Vikner & Jensen (2002) were the first to apply the theory to the interpretation of pre-nominal possessives. The interpretive tendencies exhibited by logical metonymy expressions, they venture, are reflected in the interpretation of pre-nominal possessive NPs inasmuch

as a number of obvious candidate interpretations are clearly discernible in the absence of linguistic context. The following two quotes are programmatic:

“A lexical interpretation of *John began a novel* is ‘John began to read a novel’, whereas ‘John began to translate a novel’ would be a non-default interpretation made possible by *pragmatic inference* in a marked, informationally rich context (Briscoe, Copestake, Boguraev, 1990: 43). There are very few lexical interpretations of a given phrase, whereas there may be indefinitely pragmatic ones. The lexical interpretations are “privileged” in the lexical semantics of the relevant words in the sense that the information needed to compute them is incorporated in the lexicon. The construction of pragmatic interpretations, on the other hand, cannot be carried out *on the basis of lexical knowledge alone*, but depends essentially on pragmatic knowledge and discourse knowledge.” (Vikner & Jensen, 2002: 194-195; my emphasis).

The central idea is that the derivation of lexical interpretations is decontextualised and therefore not dependent on the (real or imagined) referents denoted by the possessive NPs in question. Instead, they will usually proceed on the basis of lexical semantic knowledge, or what I referred to as compositional knowledge in Chapter 2, alone. Pragmatic interpretations, on the other hand, do rely on referential knowledge and pragmatic inference:

“Thus, [lexical] interpretations only require knowledge of the meaning of the relevant words, whereas pragmatic interpretations not only require knowledge of the meaning of the relevant *words*, they also require knowledge of the *individuals* referred to by each of the two nominal expressions in the pre-nominal genitive construction. This being so, it is evident that there may be infinitely many pragmatic interpretations of a given phrase, whereas there are very few semantic ones.” (Vikner & Jensen, 2003: 174; emphasis in original)

Much like instances of logical metonymy, the interpretation of pre-nominal possessives is then thought to be guided by a generative, lexicon-internal mechanism which takes as its input the information contained within a noun’s *qualia structure*, a sort hierarchy of lexically encoded information (Gatt, 2005: 205). The qualia structure of a given noun captures information relating to the purpose of the entity it denotes (*telic* quale), how it comes about (*agentive* quale), what it is made up of (*constitutive* quale), as well as how to distinguish it from other objects/within a larger domain in terms of its shape, weight, dimension, etc. (*formal* quale).

To give an example, the qualia structure of the noun *novel*, detailed below, specifies that it is both readable and writeable. This, Vikner & Jensen venture, gives rise to the two default readings of *John’s novel* (‘the novel John is reading’ and ‘the novel John has written’). By extending Pustejovsky’s analysis to English pre-nominal possessives, their compositional analysis relies on an almost fully specified lexical entry which, in conjunction with a minimal, control-encoding semantics contributed by the possessive marker, can account for the various default readings that are readily retrievable in null contexts.

novel (*x*)
 Const: narrative (*x*)
 Form: book (*x*), disk (*x*)
Telic: read (T,y,*x*)
Agentive: artifact (*x*), write (T,z,*x*)
 (Pustejovsky, 1991: 427; my emphasis)

To explain how even non-relational nouns such as *novel* give rise to lexical interpretations, Vikner & Jensen (2002) posit the existence of various type-shifters. These avail themselves of information lexically encoded by various qualia, shifting non-relational nouns of type $\langle e,t \rangle$ to relational nouns of type $\langle e, \langle e,t \rangle \rangle$. While the details of the formal analysis will not interest us here, it predicts that the genitive modifier (e.g. *John's*) uniformly combines with relational nouns. Once type-shifted, non-relational nouns then contribute their possessive relations directly, i.e. by virtue of the lexicon providing appropriate possessive relations. These give rise to lexical interpretations to the exclusion of other potential interpretations (ibid.: 204).

The major consequence which falls out from this GLT-based account is that the locus of the possessive relation is the possessum noun in the case of both relational and non-relational nouns (cf. Barker, 1995; Partee, 1983/1997). Context and pragmatic reasoning then play only a minor role, coming to bear solely in the case of pragmatic interpretations. To reiterate, the two proposals from Partee (1983/1997)/Barker (1995) and Vikner & Jensen (2002, 2003, 2004) respectively have been summarised as follows, repeated here as Table 3.1:

Barker (1995)/ Partee (1983/1997)	Possessive relation	Vikner & Jensen (2002, 2003, 2004)
Lexical	Inherent (e.g. <i>John's mother, John's weight, ...</i>)	Lexical
	Part-whole (e.g. <i>John's eyes, John's leg, ...</i>)	
Pragmatic	Producer (e.g. <i>John's poem, John's snowman, ...</i>)	
	Control (e.g. <i>John's car, John's sweater, ...</i>)	
	Others (e.g. <i>John's mountain, John's tree, ...</i>)	Pragmatic

Table 3.1: Alternative proposals of semantic vs. pragmatic workshare in the determination of the possessive relation (from Vikner & Jensen, 2002: 193; Barker, 2010: 9)

Apart from a somewhat unsystematic class of pragmatic relations, Vikner & Jensen discern four types of lexical relations, namely inherent, part-whole, producer and control relations. Inherent relations are relations which are encoded in the relational semantics of two-place nouns such as *mother, weight, colleague*, etc. Part-whole relations stem from body part nouns (human

and non-human), as well as nouns denoting constituent parts of other entities, e.g. *edge* (as in *the cliff's edge*), *handle* (as in *the knife's handle*). Producer relations denote physical and cultural artefacts produced by agentive entities, including humans and factories. Finally, the control relation subsumes relations of possession or ownership in the widest sense.

While Vikner & Jensen's account aims to be uniform by not positing different types of interpretational mechanism depending on whether the possessum noun is relational or non-relational, the picture it produces is complex: the origin of the relation for individual interpretation types is attributed to various sources. These are the two-place semantics of relational nouns to denote inherent relations, the possessum noun's qualia structure for producer and part-whole relations, and the semantics of the possessive marker for control relations. These sources are illustrated below:

N2 (possessum noun)		N1 (possessor noun)	Interpretation
Relational		Meets selectional restrictions of N2-relation	Inherent relation
Relational or non-relational	Marked as possible part in Constitutive role of N2	Meets restrictions on whole in Constitutive role of N2	Part-whole relation
	Artefact	Meets selectional restrictions on agent position in N2's agentive role	Producer relation
	"Controllable object"	Animate	Control relation

Table 3.2: Possible semantic interpretations of pre-nominal possessive NPs (from Vikner & Jensen, 2003: 177)

Table 3.2 shows that both the possessum (N2) and possessor noun (N1) affect possible interpretations of possessive NPs. For example, relational nouns, which encode a relationship between two entities, contribute this relation (e.g. kinship in *mother*) directly provided that N1, the possessor noun, is animate.¹ Another type of relational noun, that denoting part-whole relations (e.g. *leg, corner, edge, face*, etc.), is thought to encode a constitutive quale in its lexical semantics, specifying the whole necessary to the part. Similarly, given a sufficiently rich qualia structure, even non-relational nouns give rise to lexical interpretations in the shape of producer and control relations.

¹According to Vikner & Jensen (2003: 176), "[e]very semantic predicate used in the lexicon is associated with a set of selectional restrictions on its arguments, which may filter out some unacceptable interpretations of a given phrase." This means that only certain types of possessors (e.g. animate, has to denote a relational argument, has to be capable of producing artefacts) may combine with certain possessum nouns.

Producer relations are thought to arise if N2 is non-relational and marked in its lexical semantics as containing an agentive quale, such as the noun *novel*. Provided that N1, the possessor, is a suitable agent for this type of producer relation, a producer interpretation is supposed to be immediately available. Control relations, on the other hand, rely on N2 constituting what Vikner & Jensen (2004: 11-12) refer to as a *controllable object*, by which they mean

“a class of objects identical to what is sometimes termed alienable objects consisting on the one hand of nonhuman physical objects (i.e. animals, physical artifacts and natural objects) and, on the other hand, of commercialized abstract artifacts (such as stocks, computer programs, doctors’ practices, and such entities)” (ibid.).

This is not to say that the control relation is encoded to the same degree as e.g. telic and agentive qualia. In fact, there is no single quale specifying this type of relation. It is instead thought to be contributed by the possessive marker (see also Storto, 2005), which neatly tallies with the tendency for this relation, or some shade thereof, to be available almost across the board, regardless of the possessum noun.

As far as pragmatic interpretations are concerned, and as is transparent from the deaf mute example in (24), Vikner & Jensen mainly consider overt and explicit paraphrases such as ‘the pen he had bought from the deaf mute’ as instances of contextual support. In this respect, pragmatic interpretations rely directly on the linguistic context for their interpretation. The linguistic context is required to render a particular relation salient due to the fact that the possessum noun alone either fails to do so, or encodes (a) relation(s) that is/are not intended by the use of the possessive NP which contains it (see examples (21)-(24)).

Salience is then thought to be a matter of context in this tangible sense, i.e. where an utterance is fully embedded within a context which contains more or less explicit clues as to the possessive relation in question. Importantly, as Vikner & Jensen (p.c.) themselves note, salience considerations and pragmatic reasoning do *not* come to bear in the determination of possible lexical interpretations. This is so because of their reliance on compositional knowledge that stems from the type of possessive NP (e.g. *John’s car* specifying a control relation, *John’s mother* specifying an inherent relation, and so forth), which is something I will come back to in the next chapter.

These predictions, while complicated and rather divergent in what they take to be the main source of relational information feeding into the interpretation process, are interesting and intuitively correct. However, they have to my knowledge not been empirically tested. One of the primary aims of the present study is thus to fill this gap and to provide an empirical backbone to the strong intuitions that underlie Vikner & Jensen’s classification of possessive interpretations. Before I describe the study’s methodology, I will now briefly mention a view from typology which is based on the same kind of argumentation as is used in formal semantic accounts, and which concerns the distinction between *alienable* and *inalienable* possession.

3.2.2 Typological accounts

The distinction between alienable and inalienable possession formalises the distinction between possessed entities which are detachable from their owner (pets, food items, legal belongings, etc.) and those which are non-detachable from and/or blood-related to their owner (body parts, family relatives, etc.). Whilst not grammaticalised in English, it is standardly claimed that the English language distinguishes between alienable and inalienable types of possession on the basis of the availability of default interpretations. For example, Lichtenberk et al. (2011: 670) suggest that,

“[w]hen an inherently relational noun functions as the possessum in a possessive construction, the “possessive” relation is normally of the inalienable type. [...] In constructions with inherently relational possessums there is normally a salient, default relation between the possessum and the possessor. The default relation is intrinsic to the meaning of the inherently relational possessum noun. On the other hand, with possessum nouns that are not inherently relational there is typically no such highly salient relation between the possessum and the possessor, and a variety of relations are freely available.”

Much like the stance taken in the semantic literature, Lichtenberk et al.’s claim amounts to saying that default interpretational tendencies are directly contingent upon the lexical semantics of the possessum noun in question: relational nouns give rise to inalienable interpretations, while non-relational nouns give rise to alienable interpretations. The inalienable vs. alienable distinction is then another way of couching the difference between lexical and pragmatic interpretations.

This idea is further adopted by Nikolaeva & Spencer (2013), who discuss the similarities between attributive post-nominal possession and attributive modification (e.g. *the sea of green* vs. *the green sea*) from a typological point of view. In their discussion of canonical possession, they note that the concept of possession in its widest sense stereotypically subsumes relationships such as part-whole, kinship and ownership. Such stereotypical meanings are, however, not the only ones that can be expressed by possessive constructions. As we saw in Chapter 1, a vast variety of other relations are conceivable. According to Nikolaeva & Spencer (2013: 215), while “many languages [...] have unambiguous encoding of the alienable/inalienable distinction”, and so morphosyntactically signal which out of many conceivable relations is the speaker-intended one, this distinction is not grammaticalised in English. However, insofar as “the nature of this distinction largely determines the [interpretation] of possessives”, the communicated relation should be discernible on the basis of this distinction.

3.2.3 Lexical and pragmatic interpretations defined

In conclusion, both the semantic and the typological literature suggest a split between *lexical* or *inalienable* and *pragmatic* or *alienable* possessive interpretations. Their main characteristics may be summarised as follows:

Lexical interpretations	Pragmatic interpretations
- underlying relations encoded semantically in various parts of the construction	- underlying relations made available in context/discourse
- do not require contextual explication	- require contextual explication
- rely on compositional <i>type</i> -meaning of parts of the construction	- rely on referential <i>token</i> -meaning of parts of the construction
- arise <i>by default</i> via decoding of lexical semantic information	- arise via non-monotonic reasoning and/or by overriding default interpretations

Table 3.3: Characteristics of lexical and pragmatic interpretations

While the lexical vs. pragmatic distinction is largely terminological in nature, it makes interesting predictions about the process of possessive interpretation, as summarised in the fourth bullet point. A lexical relation is supposed to be semantically decoded as opposed to consciously inferred via non-monotonic reasoning, as in the case of pragmatic interpretations. In order for a pragmatic interpretation to arise, an existing lexical interpretation first needs to be overridden (Gatt, 2005: 206). It is beyond the scope of this thesis to investigate the processing implications of these predictions, which is why I will be treating them as theoretical parameters only.

Against this background, I will now present the empirical study and its methodology before discussing the repercussions of the lexical vs. pragmatic view in section 3.4.

3.3 An empirical investigation into possessive interpretations

3.3.1 Methodological background

Methodologically, the present study is based on Lichtenberk et al.'s (2011) study of alienable vs. inalienable possessive interpretations. Lichtenberk et al. conducted a psycholinguistic experiment which set out to test, amongst other things, what they call *the possessum effect*: that is, “whether possessive constructions with relational possessums would yield a narrower

range of interpretations than those elicited for constructions with non-relational possessums” (ibid.: 671). The experiment involved a total of 72 monolingual English speakers, who were asked to paraphrase a number of relational and non-relational possessive NPs. The results of the study confirmed the possessum effect. The range of interpretations elicited for NPs containing relational possessums was significantly smaller and more ‘default’ in nature than that for non-relational ones.

To my knowledge, Lichtenberk et al.’s study is the first of its kind to test possessive interpretations empirically. It uses a well-balanced list of stimuli, containing an equal number of relational and non-relational possessum nouns, but is not interested in the more concrete interpretation types of possessives outlined by Vikner & Jensen (2002). With regard to the present endeavour, i.e. to test whether Vikner & Jensen’s predictions are borne out empirically, Lichtenberk et al.’s study methodology contains several caveats.

Firstly, the authors were relatively explicit about the kinds of responses they expected from the participants. Not only did they specify what they do not consider an appropriate response, but they also gave positive examples of what kind of answers they wanted participants to give, such as “the ear that is part of the boy’s face” or “the toys that the girl plays with”. This is methodologically problematic in that it primes certain response types, and in particular those related to the constitution (what do ears belong to?) and the purpose (what are toys made for?) of the entity denoted by the possessum noun. While such responses may seem relatively straightforward, it is not clear whether they were given by the majority of participants based on instructional priming or whether they represent true default responses.

Secondly, the authors note the fact that only the first response was taken into consideration in the analysis, but it is unclear why. As they themselves state in the instructions given to the participants, more than one interpretation may be possible for any given NP. In other words, excluding potential responses beyond the first that comes to mind means that the idea that interpretations are flexible even for possessive NPs containing relational possessums is easily dismissable. Lichtenberk et al.’s methodology is thus useful, but not directly reproducible for the purposes of the present study, which I outline in the following section.

3.3.2 The study

The present investigation builds on Lichtenberk et al.’s experiment whilst seeking to rectify their methodological shortcomings so as to cater for its slightly different focus. This aims to capture the wider interpretational tendencies underlying the interpretation of English pre-nominal possessives in terms of

1. the *per se* existence of default interpretations given the absence of linguistic context which explicates the possessive relation,

and

2. the existence and plausibility of distinct types of possessive interpretations derived from different intra- and extra-constitucional sources (Vikner & Jensen, 2002).

Both points underlie the more central question of whether, from an empirical point of view, possessive interpretations can be shown to fall into two distinct groups which justify different theoretical treatments. With regard to the first point, I am predominantly interested in the question of whether the kind of possessive default interpretations that come to mind so readily upon introspection are produced consistently and with great frequency across participants. Whilst their existence is *intuitively* plausible, it is important for the remainder of this thesis to characterise exactly what they are as well as with what degree of certainty they arise.

The second point refers to the predictions made by Vikner & Jensen (see Table 3.2) about what kinds of interpretations are possible given the constellation of particular possessor and possessum nouns. For example, given the combination of the possessor noun *John*, which denotes an entity capable of creating an artefact, and the possessum noun *snowman*, which contains a telic quale specifying that it can be built, the prediction would be that a producer interpretation (e.g. ‘the snowman that John built’) should be given more frequently and to the detriment of other possessive relations (e.g. ‘the snowman that John watched melting’, ‘the snowman that John dreamt about’).

What is more, given the complexity of Vikner & Jensen’s predictions with regard to different semantic sources of these relations, it will be necessary to critically assess the *plausibility* of the various distinctions. In other words, are there good reasons to stipulate a complex system of this kind which relies on various compositional sources of the possessive NP when a simpler, more uniform one could explain the same tendencies?

3.3.2.1 Methodology and materials

The study was presented in the form of an online survey hosted by *LimeSurvey*, an open source survey application, and was run between September and November 2014 at the University of Manchester. In total, 89 native speakers of English, all first year undergraduate Linguistics and English Language students, took part for course credit. The study was unsupervised. Out of the 89 participants, a total of 11 were excluded from the analysis for failing to adhere to the exact instructions. The final number of participants whose responses were taken into consideration was 78. Participants were presented with the following instructions:

Welcome to the survey!

In the following you will see English noun phrases of the kind
John’s pen, John’s parents, etc. For each phrase, please

express the relationship(s) that you think can exist between the second noun (e.g. *parents, pen*) and the first noun (*John*). Please fill in the blank after the word *that*, as for example in *the pen that _____*, providing between one and five answers. Make sure you include the first noun (*John*) in your answer. We are interested in your spontaneous responses, so don't think too hard about them!

Contrary to Lichtenberk et al., the above instructions offer no more than a schematic description of the response-type that is expected of participants (i.e. “express the relationship(s) that you think can exist between N2 and N1”), leaving enough leeway for different kinds of responses that are not instructionally primed. Furthermore, they invite participants to provide a range of responses rather than merely the first that comes to mind. To ensure that participants were not completely free in the kind of response they could give, a response template consisting of the phrase *the X that...* was provided, which aimed to prompt participants' inclusion of both the first noun (*John*) and a verbal paraphrase (e.g. *wrote with, bought in the shop, owned, gave birth to*, etc.), so as to maximise comparability amongst responses. An example of a possessive token as presented to participants can be seen in Figure 3.1.

The image shows a screenshot of a LimeSurvey question. At the top, there is a teal header with the text "John's murder" and "Please fill in at least one answer" in pink. Below this, there are five rows of response options, each consisting of a label followed by a text input field:

- a) the murder that
- b) the murder that
- c) the murder that
- d) the murder that
- e) the murder that

Figure 3.1: Example of an NP token in *LimeSurvey*

3.3.2.2 Stimuli

Following the instructions, participants were presented with the NPs in Table 3.4 in automatically and individually randomised order. The categorisation into five groups (Inherent, Part-whole, Producer, Control and Pragmatic) is based upon Vikner & Jensen's (2002) taxonomy. Importantly, which group individual tokens were allocated to was not obvious to the participants. The selection of possessum nouns was mostly random, with numerous tokens represent-

ing examples of possessive NPs which intuitively fall into the respective interpretation groups.² For reference purposes, Table 3.4 contains the relative frequency of each noun in a pre-nominal possessive NP: all nouns in the Pragmatic group reflect a very low rate of occurrence, while nouns in the other four groups reflect a mean occurrence of above 10%.³ The possessor noun, *John*, was kept constant across all stimuli phrases due to the study's focus on how the possessum noun, not the possessor noun, affected the interpretation process.⁴ Each token was presented individually, prompting participants to provide at least one, and maximally five responses. All tokens were mandatory.

²Note that the above categorisation is not meant to be absolute. For instance, it is perfectly conceivable that the Producer and Control tokens could yield the respectively other response type, i.e. there is no apparent reason to think that, say, *John's jumper* is more likely to produce a control interpretation (e.g. 'the jumper John is wearing') than a producer interpretation (e.g. 'the jumper John has knitted'). Similarly, the Pragmatic group consists of tokens that are intuitively more difficult to interpret, in the sense that the possessive relation may be less transparent than for tokens in the other four groups. The present categorisation thus merely captures *intuitive* tendencies, reflecting the kind of argumentation underlying Vikner & Jensen's own categorisation.

³A common method to compare the relative frequency of a lexical item occurring in one construction vs. another is collostructional analysis (e.g. Stefanowitsch & Gries, 2003). For current purposes, this method would have involved entering in a 2x2 table the frequency of the respective possessum noun in a) a pre-nominal possessive construction and b) any other construction, as well as the frequency of other nouns occurring in a) a pre-nominal possessive construction and b) any other constructions (total number of nouns). The method is useful, but due to the extremely large size of the sample, p values come out high virtually every time, rendering the statistic somewhat uninformative. Furthermore, as Hollmann & Siewierska (2007: 409) note, it is not clear how a collostructional analysis should work when comparing nouns in the pre-nominal possessive construction and in free text: what counts as "other constructions" which to compare the pre-nominal possessive construction against? Should this include all possessed NPs, or even all definite NPs (etc.)? Note that the method is much easier to conduct when checking significance levels of nouns occurring in one out of two possible constructions, as e.g. the dative or the genitive alternation. To avoid these shortcomings, I followed Haspelmath's (2006) method and settled for mean frequencies.

⁴This is not to say that the possessor noun does not also have an effect on the interpretation process, as plausibly demonstrated by Lichtenberk et al.'s (2011) study. Aside from the possessum effect, it also tested for the equivalent possessor effect. Their results indicate that the possessor effect is stronger for alienable (typically non-relational) than for inalienable (typically relational) possessum nouns. Consider e.g. *the gardener's vegetables* vs. *the cook's vegetables*, where the relation is different, and *the gardener's face* vs. *the cook's face*, where the relation is the same. I will address the role of the possessor noun in more detail in chapters 5 and 7.

Interpretation group	T	Frequency of T	Frequency of X's T (_POS _DPS)	%	Mean
Inherent	parents	15937	5409 (540 4869)	33.9%	
	teacher	8642	388 (41 347)	4.5%	
	murder	4538	355 (235 120)	7.8%	
	friend	14374	3507 (325 3182)	24.4%	
	relationship	12672	1720 (262 1458)	13.6%	
	children	45639	4767 (463 4304)	10.4%	
	neighbour	1770	563 (45 518)	31.8%	
	interview	3822	198 (30 168)	5.2%	16.5%
Part-whole	nose	3953	2007 (214 1793)	50.8%	
	finger	3005	1071 (45 1026)	35.6%	
	jaw	1038	442 (77 365)	42.6%	
	team	17203	1855 (458 1397)	10.8%	
	breath	4521	1747 (81 1666)	38.7%	
	group	36796	897 (365 532)	2.4%	
	hair	13543	5153 (373 4780)	38%	
	eyes	27298	16747 (2081 14666)	61.3%	35%
Producer	picture	9560	474 (122 352)	5%	
	letter	13221	1638 (542 1096)	12.4%	
	book	23482	2732 (1045 1687)	11.6%	
	story	13194	1371 (455 916)	10.4%	
	cake	2676	148 (21 127)	5.5%	
	poem	2415	227 (122 105)	9.4%	
	salad	1103	27 (8 19)	2.4%	
	snowman	54	2 (0 2)	3.7%	15.1%
Control	purse	641	224 (23 221)	34.9%	
	car	26657	3723 (639 3084)	13.7%	
	brick	1737	3 (0 3)	0.2%	
	ship	3919	270 (53 217)	6.9%	
	goldfish	351	12 (5 7)	3.4%	
	knife	2552	275 (61 214)	10.8%	
	jumper	522	108 (15 93)	20.7%	
	pen	1749	303 (21 282)	17.3%	13.5%
Pragmatic	sky	4682	13 (7 6)	0.3%	
	rock	5538	21 (2 19)	0.4%	
	tree	5920	78 (24 54)	1.3%	
	sunset	543	0 (0 0)	0%	
	page	9842	54 (39 15)	0.5%	
	mountain	3543	16 (8 8)	0.5%	
	day	58801	1751 (606 1145)	3%	0.9%

Table 3.4: BNC frequencies of noun tokens

3.3.2.3 Coding scheme

In order to warrant greater comparability among the frequently rather divergent paraphrases, all responses were coded according to a coding scheme which was developed on the basis of major response groups with common semantic aspects. These included e.g. telic responses, possessive/ownership responses and relational/inherent responses. The coding system discerns two groups, termed *determinative* and *non-determinative* paraphrases respectively. The difference lies in whether or not the paraphrase was meaningful or transparent with respect to the potential underlying relation which holds between John and the entity denoted by the possessum noun. The below table illustrates this difference:

Token/ Paraphrase	John's snowman	John's jumper	John's sunset	John's nose	John's teacher
Determinative	the snowman that John built (producer)	the jumper that John wears (telic)	the sunset that John watched (experiencer)	the nose that is part of John's face (part-whole)	the teacher that teaches John (inherent)
Non- determinative	the snowman that John talked to (ambiguous)	the jumper that John hugged (ambiguous)	the sunset that has an affiliation with John (vague)	the nose that John broke (ambiguous)	the teacher that John loved (emotion)

Table 3.5: Determinative and non-determinative paraphrases across tokens from all five interpretation groups

Note that this way of coding the responses constitutes an attempt to characterise the various *paraphrases* given in response to the survey stimuli, and crucially *not* the underlying conceptual relations which two entities can enter into, except in cases where this seemed plausible. This difference is important insofar as the paraphrases merely represent a ‘verbalisation’ of a conceptual notion.⁵ For example, in order to express linguistically the kind of relation which may hold between John and a salient jumper that John tends to wear, it is possible to think of various ways to paraphrase this. For example, it may be expressed directly by choosing ‘the jumper

⁵Previous work in the field of natural language processing dedicated to the automatic interpretation of English possessives contains similar sets of relation taxonomies which were created for the annotation of possessive NPs. In the manual annotation phase, Badulescu & Moldovan (2009) used a set of 36 relations, 19 of which for pre-nominal possessives. Tratz & Hovy (2013), who limit their investigation to pre-nominal possessives only, used a total of 17 relations. Similar to what Tratz and Hovy did for a small data set of possessive NPs, I created my own taxonomy of interpretation categories based on an initial qualitative analysis of some of the responses given by participants, which I then grouped together on the basis of common semantic aspects. My own annotation scheme differs mainly in that it takes into account paraphrases rather than underlying relations. This is because I operated on the basis of *participants’* (as opposed to my own) interpretations of possessive NPs. Note that I did not consult a second annotator for the coding of the responses, which means that certain decisions may reflect some degree of subjective bias. At the more objective level of the underlying relation, I used Vikner & Jensen’s five core relations to warrant better statistical comparability. The coding should therefore be relatively unambiguous given the clear differences among them.

that John wears’, or more indirectly by opting instead for paraphrases such as ‘the jumper John owns’ (and, *ceteris paribus*, wears), or ‘the jumper that is John’s favourite’ (on the basis of his wearing it more than any other jumper).

In this respect, a given paraphrase does neither necessarily nor unambiguously convey the underlying objective relation which holds between the two entities in question – this is something that requires further interpretation on the part of the researcher. When coding the data it was thus my main priority not to coerce my own interpretation of participants’ responses on the data, but to keep the process as unbiased as possible. The final coding system I used to characterise the responses is thought to reflect an objective way of classifying participants’ comprehension of the NP at hand. To give an example, it is conceivable that a telic interpretation of *John’s jumper*, such that John wears the jumper, does not strictly speaking entail that John also owns it, however probable this may be given our knowledge of the world and the way things tend to be. It is simply not possible to know for certain what participants meant when choosing a certain wording, which is why it seemed most promising to code for paraphrases rather than relations in the majority of cases.

However, it seemed legitimate particularly for the Inherent and Part-whole groups to conflate certain response types and certain relations, as for example in cases such as ‘the finger that John uses’ in response to *John’s finger*. Despite its telic orientation, this is most likely to denote a part-whole relation. While it is possible that John might be using somebody else’s finger, this seems less likely, as indicated by the fact that it is difficult to come up with a plausible context to this effect.

Furthermore, both the Inherent and the Part-whole group contain possessum nouns that are frequently classified as relational or functional (Löbner, 1985, 1998), i.e. as semantically encoding a two-place relation. Because this relation can hold either directly between the possessor and its possessum (e.g. *John’s finger* to denote John’s own finger), or between the possessor and an external possessum (e.g. *John’s finger* to denote the finger of an external person that John is operating on/painting/thinking about/etc.), any response will necessarily reduce to either of these two options. In other words, a response such as ‘the finger that John saw’ would in theory be assigned the ‘Experiencer’ coding (see below), but because an experiencer relation of this kind necessarily entails either of the aforementioned two relations, I coded such responses as ‘Ambiguous’. By contrast, the same paraphrase of e.g. *John’s sunset* is considerably less ambivalent, which is why the ‘Experiencer’ coding was chosen in these cases.

The coding of individual responses was then oriented towards the most plausible conceptual relation underlying the paraphrase *only* when this seemed a legitimate decision. The statistical analysis in section 6.4 will reflect the difference between paraphrases and conceptual relations further. The below list details all 19 paraphrase types that were discerned based on an initial qualitative analysis of the responses. These are based on actual responses given.

Determinative paraphrases

Acquirer Relations describing the acquisition of an entity, e.g. through buying, winning or finding (e.g. *John's purse* – ‘the purse that John bought’, *John's pen* – ‘the pen that John won’, *John's rock* – ‘the rock that John found’)⁶

Controller Physical control relations, e.g. holding an entity in one's hands and doing something with it (*John's knife* – ‘the knife John is holding/sharpening/wielding’), wearing an entity (*John's jumper* – ‘the jumper John is wearing’)

Experiencer Relations of physically seeing or experiencing an entity or event (e.g. *John's sunset* – ‘the sunset that John watched’, *John's rock* – ‘the rock that John looked up at’, *John's day* – ‘the day that John had’)

Inherent Relations that form part of the lexical semantics of relational nouns, e.g. kinship (*John's parents* – ‘the parents that raised John’), friendship (*John's friend* – ‘the friend John made/is friends with’), as well as relations that constitute part of the argument structure of the verb underlying the nominalisation, e.g. agenthood (*John's interview* – ‘the interview that John conducted’), patienthood (*John's murder* – ‘the murder that killed John’)

Location Relations specifying physical location (e.g. *John's mountain* – ‘the mountain John is sitting on’, *John's sky* – ‘the sky that is above John’)

Manager Manager relations, e.g. through leading or coaching (*John's team* – ‘the team that John is in charge of/coaches/leads’)

Named after Relations specifying name-giver type relations (e.g. *John's mountain* – ‘the mountain that is named after John’, *John's salad* – ‘the salad that John is famous for/that is named after John’)

Other Responses which did not fit into any of the above categories (e.g. *John's group* – ‘the group that John helped’, *John's story* – ‘the story that had been passed through John's family’, *John's book* – ‘the book that John borrowed’, *John's picture* – ‘the picture that John questioned’)

⁶NB: The distinction between ‘Acquirer’ and ‘Other person's’ is sometimes problematic, since both can be true of a relation at the same time. I therefore only coded those relations of finding as Acquirer relations for which it was unlikely that the found entity belonged to another person, e.g. rocks, which (arguably) do not normally constitute people's possessions.

Other person's Relations indicating that an entity is associated with another person (e.g. *John's children* – 'the children that John babysits', *John's nose* – 'the nose that John chiseled', *John's purse* – 'the purse that John stole')

Owner Relations indicated by ownership-indicating predicates (e.g. *John's goldfish* – 'the goldfish that belongs to John/John owns/John possesses')

Part-whole Part-whole relations, e.g. body parts (*John's finger* – 'the finger that is physically attached to John'), membership (*John's team* – 'the team that John is a member of/plays for/etc.')

Producer Agentive relations, e.g. artistically capturing/creating an entity (*John's picture* – 'the picture that John took/drew/painted', *John's book* – 'the book that John wrote'), preparing/making an entity (*John's snowman* – 'the snowman that John built', *John's salad* – 'the salad that John made')

Relinquisher Relations indicating the termination of a control or ownership relation, e.g. through losing (*John's purse* – 'the purse that John lost'), killing/destroying (*John's page* – 'the page that John ruined', *John's goldfish* – 'the goldfish that John flushed down the toilet') or abandoning (*John's salad* – 'the salad that John threw away')

Telic Purpose- and use-indicating relations (e.g. *John's book* – 'the book John is reading', *John's salad* – 'the salad John is eating', *John's pen* – 'the pen John is using')

Theme Patient- or recipienthood relations when these are not part of the argument structure of the possessum noun, e.g. recipient (*John's letter* – 'the letter that John received/that was addressed to John'), theme/aboutness/depiction (*John's story* – 'the story that is about John', *John's picture* – 'that picture that depicts John'), or affectedness (*John's knife* – 'the knife that harmed John')

Non-determinative paraphrases

Ambiguous Responses which were too ambiguous to be classified unanimously (e.g. *John's nose* – 'the nose that John broke', *John's breath* – 'the breath that John smelled', *John's story* – 'the story that John would like to get published')

Emotion Emotional response indicating responses which leave the relation which holds between John and the emotional response triggering entity unspecified, e.g. loving/hating (*John's neighbour* – 'the neighbour that John despised'), desiring something (*John's nose*

– ‘the nose that John wished he had’, *John’s relationship* – ‘the relationship that John wants’)

Not available (N/A) Responses which were either not present (because the participant stopped after a certain response slot), or which did not adhere to the instructions, e.g. by leaving out the possessor NP (*John’s book* – ‘the book that was interesting’), or responses that were otherwise uninterpretable (e.g. *John’s rock* – ‘the rock that was John’s brain’)

Vague Responses which were too vague to be classified unanimously, e.g. HAVE type relations (‘the X that John has’) and IS/ARE JOHN’S type relations (‘the X that is/are John’s’)

3.3.3 Results

3.3.3.1 Absolute frequencies

Table 3.6 shows the absolute frequencies of all paraphrase groups for each interpretation group and response number (1-5). The total number of usable responses was 6,263.

Interpretation groups and response no.

	Inherent					Part-whole					Producer					Control					Pragmatic					Total
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Determinative																										
ACQUIRER	0	0	0	0	0	0	0	0	0	0	7	26	33	9	5	60	45	34	8	10	8	6	3	0	0	254
CONTROLLER	0	0	0	0	0	0	0	0	0	0	0	0	1	1	14	9	6	4	1	12	7	4	2	2	64	
EXPERIENCER	0	0	0	0	0	2	0	0	2	1	2	2	4	5	1	0	5	3	1	0	102	35	18	9	7	199
INHERENT	247	116	46	16	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	437	
LOCATION	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	6	8	4	1	18	17	6	5	71	
MANAGER	0	0	1	0	0	17	20	4	6	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	52	
NAMED AFTER	0	0	0	0	0	0	3	1	2	1	3	5	1	3	0	2	4	0	0	14	7	1	0	0	47	
OTHER	4	0	3	2	0	15	8	11	7	0	6	9	9	7	2	8	6	9	5	2	45	32	17	16	232	
OTHER PERSON'S	21	16	9	8	3	34	18	10	4	5	0	2	3	1	2	26	11	14	8	4	0	0	0	0	199	
OWNER	7	4	3	0	0	2	10	2	0	1	43	30	13	9	3	163	56	34	9	7	51	29	9	4	492	
PART-WHOLE	0	0	0	0	0	292	112	55	19	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	490	
PRODUCER	0	0	0	0	0	8	5	2	1	0	333	110	48	15	14	16	17	10	3	2	36	19	10	7	656	
RELINQUISHER	0	0	0	0	0	0	0	0	0	0	4	7	10	7	3	46	22	12	14	5	27	7	9	2	177	
TELIC	0	0	0	0	0	0	0	0	0	0	128	72	35	27	12	173	66	30	6	5	114	41	17	5	731	
THEME	0	0	0	0	0	0	0	0	0	0	22	51	24	9	3	10	9	2	1	15	18	9	3	3	180	
Non-determinative																										
AMBIGUOUS	84	54	49	31	28	114	46	30	24	14	8	20	16	14	9	15	12	11	7	1	1	5	0	1	4	598
EMOTION	115	55	49	19	15	25	27	18	10	12	23	29	44	16	14	17	24	21	9	12	61	38	28	11	9	702
N/A	5	335	448	537	561	12	341	474	541	573	10	238	358	490	547	10	298	412	532	569	5	271	402	474	501	8944
VAGUE	141	44	16	11	5	103	34	17	9	3	35	22	23	11	8	60	33	17	13	4	38	13	13	7	5	685
Total (excl. N/A)	619	289	176	87	63	612	283	150	83	51	614	386	266	134	77	614	326	212	90	55	541	275	144	72	44	6263

Table 3.6: Absolute frequencies for first, second, third, fourth and fifth responses across all interpretation groups

3.3.3.2 Default responses

Because this study is interested in whether a given pre-nominal possessive token gives rise to a *default* interpretation, it is important to devise an objectively verifiable way of establishing this. The notion of default interpretations is rather fuzzy in itself and does not seem immediately amenable to quantification by any objective standards. I will postpone the discussion of how this notion may be approached from a theoretical point of view until the next chapter, but for now simply give in to the intuition that default interpretations are interpretations that somehow stand out the most and are the most accessible in a given situation.

In their account, Vikner & Jensen do not provide a definition of what they believe constitutes such an interpretation. My own operationalisation is therefore only one of several conceivable options of how to go about observing them empirically. Thus, whether or not a response was classified as a default interpretation of a given item was discerned on the basis of a response's frequency across participants. According to Giora (2012: 1), the priority of a response, whether for reasons of defaultness or other, may be postulated if

“[this] response is coded in the mental lexicon/repository and foremost on our mind due to factors such as extensive and repetitive exposure (e.g., frequency of occurrence, experiential familiarity, conventionality), cognitive priority (e.g. prototypicality, animacy), or (undisclosed) preoccupation (e.g., sex).”

These effects are, if at all, more plausible from an *intuitive* than an empirically verifiable point of view. I take it, however, that frequency of occurrence is more operationalisable than effects of cognitive priority or preoccupation, given that these are likely to differ substantially across participants. On the other hand, if a participant has, say, mostly been exposed to scenarios featuring a wearer-wearer relationship between John and a salient jumper whenever the NP *John's jumper* was used, he/she will likely associate this interpretation with this NP and ought to be quick to provide it across the first one or two response slots in a study environment of this kind. If the same is done by the majority of participants, the response type may overall be classified as a default interpretation for the NP in question, assuming reasons of conventionality and experiential familiarity resulting from shared socio-cultural backgrounds and other factors.

Giora's definition of salience as stemming from frequency of use and experiential familiarity is then highly plausible if we assume that whichever paraphrase was most frequently produced in response to a token such as *John's jumper* is highly likely to stem from its experiential base. For example, if we rely on our experiential knowledge of the fact that people usually *wear* jumpers rather than, say, showcase them in museums or put them on mannequins in a shop, and if we further assume that this affects the way we interpret the relationship between jumpers and human beings linguistically, it makes sense to treat the interpretation 'the jumper that John wears' as a default response in Giora's sense.

I thus define the default status of a response in terms of production frequency across participants. This is, of course, not to say that Vikner & Jensen's definition of what constitutes a default interpretation is necessarily committed to the idea of frequency effects. However, I do believe that approaching default interpretations from this angle is a valid endeavour insofar as it will reflect consistency. In other words, if Vikner & Jensen are right in assuming that default interpretations stem from the lexical semantics of the possessum noun and are free from the influence of context, we should expect a relatively high number of the same kinds of responses across participants under experimental conditions.

Admittedly, it is not easy to tell whether the order in which responses were given can tell us anything about the degree to which, for instance, the first response is more accessible to participants than the second, or whether the first response corresponds to the meaning that is most accessible in the first place. It does, however, seem plausible to assume for the purpose of this investigation that any response which was given by an overall statistically significant number of participants to the detriment of other plausible responses may be considered the most accessible – and in turn the most default response – for this particular token.

3.3.3.3 Methodological considerations

Despite the plausibility of using frequency as a proxy for defaultness, it was not possible to compare the paraphrase groups in Table 3.6 directly in their current state, since not all of these were equally relevant for all five interpretation groups, let alone all of the token items within these.⁷ In order to warrant statistical comparability, all responses were subsequently collated into meaningful categories for four of the five interpretation groups. These are *inherent* vs. *non-inherent* for the Inherent group, *control* vs. *non-control* for the Control group, *producer* vs. *telic* vs. *other* for the Producer group, and *part-whole* vs. *non-part-whole* for the Part-whole group.

These categories are supposed to capture the underlying conceptual *relation* and not merely the paraphrase, as the majority of the response groups in Table 3.6. The same was not possible in any systematic way for the Pragmatic group (e.g. *pragmatic* vs. *non-pragmatic*), since this group is partly identified via the interpretational flexibility exhibited by its members. In this respect, it resists the kind of clear-cut classification of responses that was possible for the other four interpretation groups. For this reason, I considered each noun individually.

Note also that the response number totals may differ slightly compared to Table 3.6. This is so because it was not always possible to systematically decide what kind of relation participants had in mind when they opted for what I have classified as 'ambiguous', 'vague' and 'emotional

⁷While these paraphrase groups will not feature in the statistical analysis, they certainly show the range of nuanced conceptual relations expressible by the pre-nominal possessive construction which make it so interesting from a pragmatic point of view.

response’ paraphrases. Because I wanted to exclude as few responses as possible and give participants the benefit of the doubt without coercing too much of my own interpretation of individual responses, I used the guidelines in Table 3.7 to either include (in which case the cell content refers to the category the response was collated with) or exclude non-determinative responses.

		Inherent	Part-whole	Control	Producer
Ambiguous		Inherent	excl.	dependent on token	dependent on token
Vague	‘have’	Inherent	Part-whole	Control	Other
	‘is/are John’s’	Inherent	Part-whole	Control	excl.
Emotion		Inherent	excl.	excl.	excl.

Table 3.7: Distribution of non-determinative paraphrases across interpretation groups

Out of all non-determinative response types, vague responses such as ‘the X that John had’ and ‘the X that is/are John’s’ were relatively straightforward in the majority of cases and thus collated with their respectively predicted response type (e.g. ‘the parents John has’ are most likely John’s own parents (= Inherent) and ‘the car that is John’s’ is most likely John’s own car or one which he has control over (= Control)). The only exception here is the Producer group, for which vague ‘have’-type responses such as ‘the salad/letter/poem/story that John has’ were collated with the Control group. Vague ‘is John’s’-type responses such as ‘the salad/letter/poem/story that is John’s’ were excluded altogether because they are, in effect, as interpretationally flexible as the pre-nominal possessive construction itself: the salad that ‘is John’s’ could in principle be the one he made, he just ate, he dreamt about, and many more.

The picture is slightly more mixed for ambiguous and emotional responses, which were especially frequent for the Inherent group. Examples include ‘the parents that John loved’, ‘the parents that buy John his underwear’, ‘the neighbour that John had an affair with’, ‘the friend that John betrayed’, ‘the relationship that John ruined’, etc. A plausible explanation for this might be that participants perceived explicit inherent-type responses, such as ‘the friend that John is friends with’ or ‘the parents that gave birth to John’, as too obvious and simply went *beyond* these. This may have prompted responses that (to them) entailed the relational sense which includes the possessor, John, as one of arguments in the two-place semantics of the relational noun in question (e.g. the noun *friend* denotes a person whose status as a friend is dependent on the existence of a second person who this person is friends with). It therefore seemed most plausible to collate such responses with the rest of the responses that denoted inherent relations.

In the Part-whole group, participants also frequently gave ambiguous responses, as for instance ‘the nose that John broke’, ‘the hair that John cut’, ‘the team that John loved’ etc., which

proved far more difficult to classify unambiguously. I therefore excluded both ambiguous and emotional responses. The latter were also excluded in the Control and Producer groups, while ambiguous responses were dependent on the individual response token. Because their number was relatively small, I decided on a token-by-token basis whether the response should be correlated with the major response type that Vikner & Jensen (2002) would predict for the respective group.

To give an example, the item *John's goldfish* frequently elicited the response 'the goldfish that John fed', which is ambiguous with regard to whether the goldfish is John's own goldfish or belongs to somebody else. Either way, the response corresponds to Vikner & Jensen's conception of control (see section 3.2.1). Thus, whether or not John is the owner of this goldfish is irrelevant. By contrast, a response such as 'the goldfish that John named' constitutes an ambiguous response of the kind that I excluded from the statistical analysis. This is so because it does not evoke a control relation nearly as strongly as the 'feeding' response, given that John could have named a goldfish that he saw swimming in the fish tank of a restaurant or in a park pond.

In the following, I present the results for each token in each of the five interpretation groups, followed by their detailed discussion in section 3.4. The response slot section refers to the (up to five) responses participants were asked to provide. These were coded according to whether they expressed the type-predicted interpretation or not for the Inherent (Table 3.8), Part-whole (Table 3.9) and Control (Table 3.11) groups. The Producer (Table 3.10) and Pragmatic (Table 3.12) groups respectively yielded a broader range of interpretations, which is reflected in the coding. Ambiguous and vague responses were excluded. Statistical significance of response choices was assessed using exact binomial or multinomial tests for the null hypothesis that responses are distributed randomly (50:50 for binomial distributions, 25:25:25:25 for multinomial distributions with four responses, etc.), with the significance threshold set at .05.

Relation	Frequency of occurrence (for response slot)				
	1	2	3	4	5
PARENTS					
a) John's own parents	78/78	31/32	23/23	5/6	5/5
b) parents of someone else	0/78	1/32	0/23	1/6	0/5
p value	<.001	<.001	<.001	.219	.063
TEACHER					
a) John's own teacher	77/77	34/35	21/22	11/11	7/8
b) teacher of someone else	0/77	1/35	1/22	0/11	1/8
p value	<.001	<.001	<.001	<.001	.07
MURDER					
a) John's own murder (as either agent or patient)	60/76	30/41	14/21	6/10	4/6
b) murder of someone else in the act of which John was not involved	16/76	11/41	7/21	4/10	2/6
p value	<.001	<.05	.189	.754	.688
FRIEND					
a) John's own friend	76/76	35/35	26/26	16/16	12/12
b) friend of someone else	0/76	0/35	0/26	0/0	0/12
p value	<.001	<.001	<.001	<.001	<.001
RELATIONSHIP					
a) John's own relationship	78/78	32/32	19/20	11/11	7/7
b) relationship of someone else	0/78	0/32	1/20	0/11	0/7
p value	<.001	<.001	<.001	<.001	<.05
CHILDREN					
a) John's own children	74/78	34/37	26/27	10/10	6/6
b) children of someone else	4/78	3/37	1/27	0/10	0/6
p value	<.001	<.001	<.001	<.01	<.05
NEIGHBOUR					
a) John's own neighbour	78/78	31/31	18/18	13/13	10/10
b) neighbour of someone else	0/78	0/31	0/18	0/13	0/10
p value	<.001	<.001	<.001	<.001	<.01
INTERVIEW					
a) John's own interview (as either agent or patient)	76/78	45/46	18/19	6/10	7/7
b) interview of someone else in the act of which John was not involved	2/78	1/46	1/19	4/10	0/7
p value	<.001	<.001	<.001	.754	<.05

Table 3.8: Inherent (a) and non-inherent responses (b) in the Inherent group

Relation	Frequency of occurrence (for response slot)				
	1	2	3	4	5
NOSE					
a) John's own nose	48/50	17/20	5/6	5/5	1/1
b) nose of someone else	2/50	3/20	1/6	0/5	0/1
p value	<.001	<.01	.219	.063	1
FINGER					
a) John's own finger	53/56	19/23	7/8	4/4	2/4
b) finger of someone else	3/56	4/23	1/8	0/4	2/4
p value	<.001	<.01	.07	.125	1
JAW					
a) John's own jaw	46/52	14/18	6/8	2/3	1/1
b) jaw of someone else	6/52	4/18	2/8	1/3	0/1
p value	<.001	<.05	.289	1	1
TEAM					
a) John's own team (either as member or manager/coach)	57/72	35/41	18/28	9/17	5/6
b) team of someone else	15/72	6/41	10/28	8/17	1/6
p value	<.001	<.001	.185	1	.219
BREATH					
a) John's own breath	62/63	22/23	8/9	2/3	1/1
b) breath of someone else	1/63	1/23	1/9	1/3	0/1
p value	<.001	<.001	<.05	1	1
GROUP					
a) John's own group (either as member or manager/leader)	54/54	19/19	10/10	3/3	1/1
b) group of someone else	0/54	0/19	0/10	0/3	0/1
p value	<.001	<.001	<.01	0.25	1
HAIR					
a) John's own hair	40/41	11/12	12/12	1/1	—
b) hair of someone else	1/41	1/12	0/12	0/1	—
p value	<.001	<.01	<.001	1	
EYES					
a) John's own eyes	50/70	20/25	7/12	5/7	3/6
b) eyes of someone else	20/70	5/25	5/12	2/7	3/6
p value	<.001	<.01	.774	.453	1

Table 3.9: Part-whole (a) and non-part-whole responses (b) in the Part-whole group

Relation	Frequency of occurrence (for response slot)				
	1	2	3	4	5
PICTURE					
a) picture produced by John (through photographing, drawing or painting)	52/70	17/47	9/29	3/15	2/7
b) other (e.g. picture in John's control or depicting John)	18/70	30/47	20/29	12/15	5/7
p value	<.001	.079	.061	<.05	.453
SNOWMAN					
a) snowman built by John	65/74	14/29	4/14	1/4	2/4
b) other (e.g. snowman destroyed or owned by John)	9/74	15/29	10/14	3/4	2/4
p value	<.001	1	.18	.625	1
LETTER					
a) letter written by John	52/73	9/45	6/29	0/17	1/9
b) letter read by John	9/73	12/45	8/29	8/17	6/9
c) other (e.g. letter addressed to John)	12/73	24/45	15/29	9/17	2/9
p value	<.001	<.05	.128	<.01	<.01
BOOK					
a) book written by John	11/72	14/42	8/29	0/13	3/6
b) book read by John	37/72	10/42	6/29	4/13	0/6
c) other (e.g. book in John's control)	24/72	18/42	15/29	9/13	3/6
p value	<.001	.34	.128	<.01	.259
STORY					
a) story produced by John (through writing or telling)	51/69	15/42	9/19	4/13	1/7
b) story read by John	6/69	11/42	3/20	3/13	2/7
c) other (e.g. story about John)	12/69	16/42	6/20	6/13	4/7
p value	<.001	.617	.243	.695	.52
CAKE					
a) cake made by John	25/68	16/45	5/26	2/16	0/6
b) cake eaten by John	31/68	11/45	6/26	3/16	1/6
c) other (e.g. cake in John's control or made for John)	12/68	18/45	15/26	11/16	5/6
p value	<.05	.411	.053	<.05	.054
POEM					
a) poem written by John	57/72	8/42	4/28	1/10	2/4
b) poem read by John	9/72	14/42	7/28	3/10	0/4
c) other (e.g. poem recited or studied by John)	6/72	20/42	17/28	6/10	2/4
p value	<.001	.08	<.05	.179	.556
SALAD					
a) salad made by John	20/70	17/41	3/26	4/16	3/8
b) salad eaten by John	34/70	11/41	5/26	4/16	1/8
c) other (e.g. salad ordered or invented by John)	16/70	24/41	18/26	8/16	4/8
p value	<.05	.095	<.001	.407	0.55

Table 3.10: Producer, telic and other responses in the Producer group

Relation	Frequency of occurrence (for response slot)				
	1	2	3	4	5
PURSE					
a) purse in John's control	74/74	36 /36	22/22	9/9	3/3
b) purse not in John's control	0/74	0/36	0/22	0/9	0/3
p value	<.001	<.001	<.001	<.05	0.25
CAR					
a) car in John's control	71/73	34/37	24/24	11/14	4/5
b) car not in John's control (e.g. through hitting John or John being a passenger)	2/73	3/37	0/24	3/14	1/5
p value	<.001	<.001	<.001	.057	.375
BRICK					
a) brick in John's control	68/73	35/37	14/19	8/10	4/4
b) brick not in John's control (e.g. through being thrown at John)	5/73	2/37	5/19	2/10	0/4
p value	<.001	<.001	.064	.109	.125
SHIP					
a) ship in John's control	72/76	37/43	17/24	10/12	6/8
b) ship not in John's control (e.g. through John being a passenger on the boat, naming the boat or seeing the boat)	4/76	6/43	7/24	2/12	2/8
p value	<.001	<.001	.064	<.05	.289
GOLDFISH					
a) goldfish in John's control	68/69	28/32	17/22	6/7	3/3
b) goldfish not in John's control (e.g. by being named after John)	1/69	4/32	5/22	1/7	0/3
p value	<.001	<.001	<.05	.125	0.25
KNIFE					
a) knife in John's control	73/77	31/35	23/27	9/9	5/5
b) knife not in John's control (e.g. by harming John)	4/77	4/35	4/27	0/9	0/5
p value	<.001	<.001	<.001	<.05	.063
JUMPER					
a) jumper in John's control	73/73	40/40	25/25	9/9	5/5
b) jumper not in John's control	0/73	0/40	0/25	0/9	0/5
p value	<.001	<.001	<.001	<0.1	<0.1
PEN					
a) pen in John's control	76/76	37/39	27/27	11/11	9/9
b) pen not in John's control (e.g. through being named after or seen by John)	0/76	2/39	0/27	0/11	0/9
p value	<.001	<.001	<.001	<.001	<.01

Table 3.11: Control (a) and non-control responses (b) in the Control group

Relation	frequency of occurrence (for response no.)				
	1	2	3	4	5
SKY					
a) sky seen/watched/experienced by John	37/78	9/33	4/13	1/6	1/4
b) sky created/captured by John	8/78	3/33	1/13	1/6	0/4
c) sky possessed/controlled by John	14/78	4/33	2/13	2/6	1/4
d) other (e.g. emotional response or location)	19/78	17/33	6/13	2/6	2/4
p value	<.001	<.05	.24	1	.906
SUNSET					
a) sunset seen/watched/experienced by John	42/77	11/35	5/21	3/8	3/6
b) sunset created/captured by John	6/77	6/35	4/21	2/8	0/6
c) sunset possessed/controlled by John	8/77	4/35	3/21	1/8	1/6
d) other (e.g. emotional response or location)	21/77	14/35	9/21	2/8	2/6
p value	<.001	.066	.342	.962	.531
DAY					
a) day experienced/spent by John	18/51	6/23	3/11	1/8	0/5
b) day devoted to/named after John	8/51	5/23	0/11	1/8	1/5
c) day possessed by John	3/51	1/23	0/11	0/8	0/5
d) other (e.g. day John had certain emotional response to or day something special happened to John)	22/51	11/23	8/11	6/8	4/5
p value	<.001	<.05	.001	<.05	.063
TREE					
a) tree controlled by John (e.g. through planting, climbing, cutting down or owning)	62/73	28/42	14/22	2/13	3/6
b) other (e.g. located above John, in John's garden, seen by John or dedicated to John)	11/73	14/42	8/22	11/13	3/6
p value	<.001	<.05	.286	<.05	1
PAGE					
a) page controlled by John (e.g. through producing, reading or owning)	70/75	35/42	16/20	8/9	3/4
b) other (e.g. page about John)	5/75	7/42	4/20	1/9	1/4
p value	<.001	<.001	<.05	<.05	.625
MOUNTAIN					
a) mountain controlled by John (through climbing, owning, etc.)	58/76	15/32	9/15	4/7	1/5
b) other (e.g. seen/captured by John or dedicated to/named after John)	18/76	17/32	6/15	3/7	4/5
p value	<.001	.86	.308	1	.375
ROCK					
a) rock controlled by John (e.g. through climbing, throwing or owning)	60/74	27/40	14/20	4/11	3/5
b) other (e.g. located near John, named after John or seen by John)	14/74	13/40	6/20	7/11	2/5
p value	<.001	<.05	.115	.549	1

Table 3.12: Different response types for the Pragmatic group

3.4 Discussion

The results displayed in Tables 3.8-3.12 merit some discussion in light of the key points I outlined in section 3.3, i.e.

1. the *per se* existence of default interpretations given the absence of linguistic context which explicates the possessive relation,
and
2. the existence and plausibility of distinct types of possessive interpretations derived from different intra- and extra-constructional sources (Vikner & Jensen, 2002).

In my discussion, I will proceed in the above order, beginning with the question of whether the empirical evidence reflects the existence of default interpretations *per se*.⁸

3.4.1 The *per se* existence of default interpretations

The most striking observation borne out of the data is without doubt the existence of either a single or several dominant interpretations for each item in each of the five interpretation groups, summarised in Table 3.13. In section 3.3.3.2, I defined default interpretations in terms of frequency. So defined, each item shows a statistically significant number of default interpretations which, for the most part, match the kinds of predicted interpretations that are delineated by Vikner & Jensen.

	number of items with default interpretation(s)	number of items with no default interpretation(s)
Inherent	8/8	0/8
Part-whole	8/8	0/8
Producer	8/8	0/8
Control	8/8	0/8
Pragmatic	7/7	0/7

Table 3.13: Number of default interpretations across interpretation groups

⁸NB: It is unclear to what extent the response template *the X that...* given in the instructions influenced participants' responses. In some cases, it was difficult to discern whether the response genuinely paraphrased the possessive item in question or whether it simply completed the template phrase in an idiomatic or collocational fashion. To give an example, a number of ambiguous responses to Part-whole items such as *nose* and *jaw* included paraphrases such as 'the nose that John broke' and 'the jaw that John punched', which sound collocational but might not necessarily express an actual relationship between John and the nose/jaw in question if this constitutes part of the face of another person. Of course, we can easily come up such 'pragmatic' contexts, but it is not clear whether these are available to the unbiased study participant. If they are not, it is doubtful whether the chosen paraphrase is indeed a plausible paraphrase of *John's nose/jaw*. While the majority of these responses were excluded from the statistical analysis, it was sometimes difficult to discern whether participants understood and followed the instructions throughout the study. Overall, such instances proved relatively rare, and yet highlight the importance of corroborating the quantitative evidence with theoretical argument.

To begin with, all nouns in Table 3.8 (Inherent group) received an inherent interpretation to a statistically significant degree, and across nearly all five response slots (henceforth RS). Interpretations other than inherent ones were rare. They did not occur at all for the items *friend* and *neighbour*, and in small numbers only for the items *parents*, *teacher*, *relationship*, *children* and *interview*. Examples of such responses included ‘the parents that John decided really needed to discipline their child’ (RS 2), ‘the teacher that John is in charge of’ (RS 3), ‘the relationship that excluded John’ (RS 3), ‘the children that John taught’ (RS 1) or ‘the children that John would be expecting at Halloween’ (RS 2), ‘the interview that John witnessed’ (RS 1), etc. The item *murder* received the highest number of non-inherent interpretations, as indicated by the relatively even distributions of inherent and non-inherent responses across the last three RS. These included responses such as ‘the murder that John investigated’, ‘the murder that John witnessed’, and ‘the murder that John saw on the news’. Overall, however, all first RS contained the expected inherent interpretation ($p < .001$). These results plausibly suggest that pre-nominal possessive NPs containing relational possessum nouns, including nominalisations such as *teacher* and *murder*, reliably give rise to inherent interpretations.

The results in Table 3.9 tell a similar story for the Part-whole group. All items received part-whole interpretations across the vast majority of RS. However, all items, with the exception of *group*, also notably received non-part-whole interpretations. These were only marginally more frequent than non-inherent responses in the Inherent group, but did, quite in contrast to the latter, already appear in RS 1. Such interpretations included ‘the nose that John smelt’, ‘the finger that John poked/pointed at John’, ‘the jaw that John punched’, ‘the breath that smells like John’s’, ‘the hair that John found in his soup’, and ‘the eyes that John looked into’. The item *eyes* yielded the highest number of non-part-whole responses ($p < .001$) of all body part-denoting items. Another item which received a significant number of non-part-whole responses is *team*, including ‘the team that John supports/sponsors/funds’ and ‘the team that John always beats’. Much like the Inherent group, interpretations in the Part-whole group for the most part occurred as predicted, with the notable exception that non-part-whole responses, while never to a statistically significant degree, did appear both more consistently and earlier on in the five RS.

Moving on to the Producer group (Table 3.10), results begin to look more diverse. Most interestingly, it was possible to isolate three distinct interpretations – ‘producer’, ‘telic’ and ‘control’ – for all but two items (*snowman* and *picture*). This suggests that the producer interpretation frequently constitutes one out of many possible interpretations. For example, the items *picture*, *letter* and *poem* all yielded interpretations other than producer ones to a statistically significant degree beyond RS 1, i.e. $p < .05$ for non-producer relations in RS 4 for *picture*, $p < .01$ – $p < .05$ for recipient and telic interpretations in RS 2+4 for *letter*, $p < .05$ for non-producer relations in RS 3 for *poem*. Items yielding non-producer interpretations already in RS 1 are *book*, *cake* and *salad*, which all elicited a statistically significant degree of telic interpretations

($p < .05$ – $p < .001$). The more diverse range of interpretations can be explained by resorting to the idea of *multiple* default interpretations, which is clearly reflected for a number of items. This tension between producer- and control-type explanations is intuitively plausible given that all items could be construed as both artefacts and controllable objects. Artefact nouns thus seem to require a greater amount of contextual priming in order to unambiguously yield producer interpretations, a tendency I will discuss further in section 3.4.2.

The Control group, summarised in Table 3.11, reflects similar trends as the Inherent and Part-whole groups. Compared to non-control interpretations, control responses were elicited to a statistically significant degree ($p < .05$ – $p < .001$) for all items across all RS, and to their complete exclusion for the items *purse* and *jumper*. Examples of non-control interpretations include ‘the car that John tried to lift’ (RS 1), ‘the brick that hit John’s window’ (RS 1), ‘the ship that was named after John’ (RS 1), ‘the knife that plunged into John’ (RS 1) and ‘the pen that John saw’ (RS 2), although these are relatively rare across the six items for which they were elicited.

Finally, and perhaps most strikingly considering the overall empirical evidence, Table 3.12 shows that all items in the Pragmatic group, which on first thought do not appear to yield an immediately accessible interpretation, do in fact reflect a number of tendencies that may be characterised in terms of default interpretations. Judging purely on the basis of their interpretational tendencies, the seven items in the Pragmatic group can be grouped into an ‘Experiencer’ and a ‘Control’ group. The ‘Experiencer’ group consists of the items *sky*, *sunset* and *day*, i.e. non-controllable, abstract entities which yielded a number of conceptually different interpretation types: experiencer interpretations (e.g. ‘the sky that John saw’, ‘the sunset that John watched’, ‘the day that John experienced/spent’), creator interpretations (e.g. ‘the sky that John painted’, ‘the sunset that John photographed’) which coerce the more abstract sense of the noun into an artefact reading, controller- or ownership-type interpretations (e.g. ‘the sky/sunset/day that belongs to John’), and other interpretations (e.g. ‘the sky John lived in’, ‘the day John remembered’, ‘the sunset that set in John’s hometown’, etc.). Of these, ownership-type interpretations are somewhat unusual given that skies, sunsets and days do not constitute possessable or controllable entities. It appears that participants simply produced responses that would otherwise paraphrase the pre-nominal possessive construction more generally, although this did not happen to a statistically significant degree. The by far most frequent interpretation of these three items was the experiencer interpretation, while the other interpretation types also occurred frequently enough to be worth mentioning.

The other four items in the Pragmatic group, i.e. *tree*, *mountain*, *page* and *rock*, which, from a mere introspective point of view, less obviously yield the kinds of salient interpretations we saw in the Producer and Control groups, did in actual fact not behave too differently. All four items preferred control interpretations such as ‘the tree that John planted’, ‘the mountain that

John climbed’, ‘the rock that John threw’ and ‘the page that John read’ and in that respect could easily form part of the Control group. The main difference between these items and the ones that more obviously yielded control-type interpretations was their tendency to elicit a larger number of ‘other’ interpretations, e.g. ‘the tree that was planted in John’s honour’, ‘the tree that is in John’s garden’, ‘the tree that hurt John’, etc. to name but a few for the item *tree*. Thus, while the number of non-control interpretations borders on insignificance for items in the Control group, it is not negligible in the Pragmatic group. Furthermore, the non-control responses are conceptually more versatile than those found in the Control group.

Overall, while all possessive NPs elicited default interpretations, their distribution is different across interpretation groups, as shown in Table 3.14. As previously described, the Inherent, Part-whole and Control groups behave most conservatively, eliciting no more than two interpretation types for all eight items respectively. The Producer and Pragmatic groups exhibit the greatest number of distinct interpretations types. Notably, neither group contains any items which received only one unambiguous interpretation. Furthermore, a number of items in the Pragmatic group reflect up to four distinct interpretations. That is, despite the somewhat unanticipated tendency of eliciting a statistically significant number of default responses, this group shows a more diverse range of conceptually different interpretations than any of the others.

	1 relation	2 relations	3 relations	4 relations
Inherent	2/8	6/8	—	—
Part-whole	1/8	7/8	—	—
Producer	—	2/8	6/8	—
Control	2/8	6/8	—	—
Pragmatic	—	4/7	—	3/7

Table 3.14: Number of items eliciting distinct interpretation types/relations across interpretation groups

With regard to the question of whether default interpretations exist, the empirical evidence thus suggests a clear trend. It moreover confirms much of the intuitive evidence underlying Vikner & Jensen’s claims. As evidenced by the results, the interpretation of lexical possessive NPs is less flexible than the interpretation of pragmatic ones, a finding which supports Lichtenberk et al.’s (2011) findings. In the next section, I will discuss briefly whether this tendency warrants the distinction between different types of lexical interpretations, and possessive interpretations more generally. This discussion will simultaneously foreshadow a potential answer to the bigger question of whether the existence of default interpretations allows any conclusions about the semantic origin of these interpretations and whether, from a theoretical point of view, it makes sense to stipulate a complex system of distinct relational loci which relies on different types of interpretational mechanism.

3.4.2 The existence and plausibility of distinct types and sources of possessive interpretations

Vikner & Jensen's (2002) account of possessive interpretations predicts the availability of a number of conceptually distinct lexical interpretations for nouns falling into the N2 classes outlined in Table 3.2. The various kinds of interpretations underlying these predictions are, for the most part, borne out by the data. This is particularly evident when we consider the clear results displayed by the items in the Inherent, Part-whole and Control groups. However, while their existence cannot be denied, it seems more debatable whether conceptually distinct types of possessive interpretations should be attributed to distinct sources which feed into the interpretation process, e.g. the semantics of the possessive marker, the qualia structure, or the two-place semantics of the possessum noun. Thus, while Vikner & Jensen seem to be making the correct predictions with respect to *what* possible relations tend to be available, it is not clear that their explanations of *how* these are made available are equally as plausible. Let me illustrate what I mean by this by discussing the case of producer interpretations.

As I pointed out in the previous section, items in the Producer group were noteworthy in that they consistently yielded both producer- and control interpretations to a non-negligible degree. In my earlier discussion, I suggested that this may be explainable by recourse to the idea of *multiple* defaults which are simultaneously available when a possessive NP is encountered. This idea is not implausible if we accept that many possessum nouns are likely to give access to more than a single salient assumption pertaining exclusively to, say, their purpose or their constitution. Naturally, a host of information should be made available upon encountering a lexical item. This means that, if Vikner & Jensen are right in assuming that such knowledge is lexically encoded, the availability of multiple dominant interpretations should indeed be the default case. And yet, while this idea is attractive from an introspective point of view, it comes with a number of problematic implications, the discussion of which I will postpone until the next chapter.

A more serious concern regarding the availability of producer interpretations is that it seems to depend heavily on the identity of the possessor referent. Thus, even though the possessor 'John', being an animate entity which is capable of producing artefacts, is a plausible candidate for a producer interpretation, it perhaps less readily gives rise to one as part of an NP like *John's book* when compared to possessors such as 'Noam Chomsky' or 'William Shakespeare'. Depending on which possessor noun is chosen, the interpretation of a possessive NP belonging to the Producer group then appears to involve a significant degree of world knowledge (e.g. that a book constitutes an artefact and can be produced by humans) aside from potential knowledge stemming from the lexical semantics of a given noun even at the initial stage of discerning a set of possible interpretations. In other words, it may not be the case that producer interpretations arise from the agentive quale of an artefact-denoting noun, or if they do, they might not rely on it

exclusively, as Vikner & Jensen's (2002) taxonomisation appears to suggest. Instead, they may also require appeal to other types of knowledge that become accessible by means of pragmatic reasoning.

The special status of the producer relation is also discussed by Vikner & Jensen (2003), who provide additional arguments as to why it should be considered semantic rather than pragmatic. Apart from their limited availability in the case of certain producer-denoting possessor nouns, they state that producer interpretations are also not necessarily available across the board for numerous artefact-denoting possessum nouns. For example, the possessive NPs *Ann's knife*, *Ann's beer* and *Ann's car*, despite the fact that their possessum nouns clearly constitute artefacts, do not immediately give rise to producer interpretations. This is indeed also reflected by the empirical evidence. Both *car* and *knife* prefer control interpretations and hardly yield producer ones. Their likelihood would arguably increase if more information about the possessor 'John' was available, say to the effect that he is a knife maker or a brewer, or even that he works in a car factory. However, if the producer interpretation requires appeal to knowledge of this kind, it certainly bears more resemblance to pragmatic interpretations than it does to lexical ones which are supposedly exhausted by lexical semantic knowledge.

Vikner & Jensen explain this tendency in terms of advances in technology, suggesting that a large number of artefacts, e.g. cars and knives, are nowadays perhaps less commonly produced by human beings. However, as they themselves concur, "[i]t is not quite obvious what it means to say that the lacking availability of the producer interpretation in some cases is "due to the technological development"" (Vikner & Jensen, 2003: 180). One possibility, they venture, would be to regard the value of semantic qualia as contingent upon historical change and to assume that the prominence of individual qualia roles may be diminished or boosted over time.

I am not certain this explanation is entirely convincing. Fundamentally, what seems to be at issue is whether it makes sense from an empirical point of view to treat the producer relation as a possessive relation which derives from a different compositional source than the control relation, given that it frequently competes with the latter both from an intuitive and an empirical point of view. Producer interpretations might alternatively be construed as a subset of control interpretations, even though the latter do not also automatically entail the former. Rather, the entailment is one-sided. For example, it is possible to imagine cases in which a producer relation entails the relinquishment of a control relation, e.g. in situations where, say, workers in a factory have produced a car only to hand it over into the control of another entity, such as a car vendor.

As it stands, it is not possible to settle this debate from a theoretical standpoint. For want of empirical consequences, I will thus not discuss the plausibility of the Producer vs. Control distinction further. Considering the bigger picture, this distinction is but a small instantiation of a more general tendency: that multiple default relations are available for almost all NPs tested in the study. Arguably, the plausibility of differentiating among four distinct kinds of

semantic relations which are derived from distinct sources is then questionable, given that all show similar tendencies and give rise to multiple possible relations respectively.

Inasmuch as the production study allows us to venture this, Vikner & Jensen's clear-cut taxonomy only partially stands up to scrutiny. While clear tendencies cannot be denied, the range of default interpretations elicited is more diverse than expected. Even though this tendency may be reducible to potential methodological caveats, the overall outcome could have been less diverse than it was, e.g. by way of numerous paraphrases of a *single* default interpretations or similar. Rather, the tendency for virtually every item to reflect a number of different response types, whatever their statistical significance, might suggest that artefact-denoting possessum nouns are not a special subset of 'interpretation triggers'. Instead, it seems plausible that the conceptual information feeding into the interpretation of possessive NPs which contain them is not generally exhausted by their lexical semantics. This tendency was certainly not limited to the Producer group. Notably, even items in the Inherent and Part-whole groups, which may have been expected to exclusively give rise to inherent and part-whole interpretations respectively, showed a number of deviant interpretations.

The obvious question that arises from these observations is whether, if even the interpretation of possessive NPs belonging to the lexical group reflects a certain amount of pragmatic reasoning, it is plausible from a theoretical point of view to distinguish between two different sources, i.e. intra- and extra-constructural ones, which play respectively more dominant parts in the interpretation of lexical and pragmatic possessive NPs. It seems that, to a certain extent at least, the distinction is not as clear-cut as predicted. Instead, considerations of what is the most likely relation seem to enter the interpretation process of both already at the stage of possible interpretations. Thus, whatever answer we may provide at this stage in response to the question of how possessive relations are made available, it seems to blur the distinction between lexical and pragmatic interpretations. There is no space in this chapter to elaborate further on this observation, which is why I will conclude my discussion with a number of open questions that naturally lead over into the next chapter.

3.5 Open questions

To draw an interim conclusion, the most striking observation borne out of the data is the existence of both *default* interpretations that match the type-predicted ones, and *deviant* interpretations that go far beyond what may be semantically encoded and determined by type-based knowledge alone. I just discussed this tendency with respect to producer interpretations, which seem to arise not out of an interpretational vacuum which solely decodes information encoded by the agentive quale, but potentially also by way of addressees' appeal to encyclopaedic and world knowledge associated with entities denoted by artefact nouns and their possessors.

Construed more generally, the results gained from the production study might be argued to support this idea for *all* possessive interpretations. Thus, while a number of different types of conceptual relations, in line with the predictions made by Vikner & Jensen (2002), could be isolated from the empirical data, it stands to reason whether they truly reflect different semantic sources that play the central role they are alleged to play in possessive interpretation. For example, if producer and control interpretations were to be collapsed as stemming from a single source, the possessive marker, which supposedly gives rise to the latter, would have to be construed differently to include the possibility of triggering producer relations to the same extent. Inherent and part-whole relations, on the other hand, might be argued to retain their semantic status due to the relational nature of their possessum noun, but this does nevertheless not help the impression that the distinction among different types of semantic interpretation sources appears arbitrary.

For now, the results showed numerous unexpected or ‘deviant’ interpretations for the majority of stimuli NPs. While tentative at this stage, this seems to suggest that a non-negligible amount of world knowledge appears to feature in the interpretation process of most possessive NPs alongside potential information stemming from intra-constructural sources. As I mentioned previously, Vikner & Jensen’s account locates salience on the level of the linguistic context, arguing that it does not come into play in the determination of *possible* interpretations, since these rely on type-based, lexical semantic knowledge alone. In light of the empirical evidence, this commitment seems questionable given that the majority of nouns, aside from the many interpretations in line with the lexical semantics of the possessum noun, also reflect numerous interpretations in the first few response slots that are reminiscent of pragmatic interpretations.

Plausibly, then, salience considerations along the lines of what possessive relation might be the most likely, construed on the basis of whatever information or encyclopaedic knowledge is accessible about a given possessor referent and a given possessum entity, come into play already on the level of possible interpretations. In this respect, possessive interpretation – whether on the level of possible or actual interpretations – might be argued to constitute a uniformly pragmatic process: addressees have to choose from among a potentially infinite set of possible relations those relations which seem more plausible than others. Arguably, this features a considerable amount of pragmatic reasoning both at the stage of delimiting an initial set of candidate interpretations (as in the present study), as well as at the stage of selecting one such candidate to the detriment of any other.

In this respect, I believe that the first premise of the argument from interpretation, according to which null contexts give rise to default interpretations that are indicative of lexical interpretations, is difficult to maintain. To foreshadow some of the discussion, I will argue that the existence of null contexts of the kind that Vikner & Jensen take to be indicative of context-

independent interpretations is questionable. Rather, every interpretation process appears to be tinged by salience considerations. This should certainly be a fair point for the study at hand. Here, participants were asked to express plausible relationships that can hold between a possessor and a possessum, which I believe naturally primes responses oriented along considerations of what may be the most probable interpretation, which in turn render certain assumptions about either entity more salient than others.

While these preferences could be argued to fall out from this kind of methodological design, it is not clear to me how the interpretation process that participants went through when coming up with possible interpretations differs in any substantive way from the interpretation process that underlies the theoretical claims of Vikner & Jensen's account of what possible interpretations are available. Despite the fact that Vikner & Jensen are not trying to predict *actual* interpretations, it seems difficult to tease apart what considerations play into their determination when compared to that of possible ones, let alone whether they warrant different explanations in the first place. At the present stage, they appear to be rather intricately entwined, the repercussions of which I will demonstrate further in the next chapter. There, I discuss the first premise from a more theoretical point of view, by drawing upon the extensive literature on default interpretations.

Open questions falling out from the picture that has emerged over the course of this chapter then largely concern the *how* of possessive default interpretations. Are they semantic or pragmatic in nature, i.e. derived independently of context or contingent upon it? What is more, if semantic information supposedly determines the interpretation of some possessive interpretations, do we need to explain the so frequent existence of others by recourse to the workings of the pragmatic-inferential system? More fundamentally, is it plausible in the first place to claim that semantic interpretations arise by default on the basis of lexical semantic information while any other type of interpretation relies on a different source or mechanism? What precisely is the role of informationally impoverished contexts or *null contexts* in this argument? Finally, might there be a simpler explanation which can account for both default and non-default interpretations in a more uniform and theoretically parsimonious way?

3.6 Conclusion

To conclude, this chapter has been concerned with the question of what possible possessive interpretations are made available given the combination of certain possessor and possessum nouns. I presented and discussed the results of an empirical investigation into the availability of so-called *default* interpretations in the absence of linguistic context. Its aim was to test the empirical validity of the first premise of the argument from interpretation, according to which two different types of possessive interpretation can be discerned based on the (non-)availability

of default interpretations. The results suggest a mixed picture of possessive interpretations, with some tendencies confirming the predictions made by the formal semantic literature and others being more surprising. By and large, a limited range of conceptually distinct possessive relations are made available in the determination of possible interpretations for NPs falling into Vikner & Jensen's five interpretation groups. Most importantly, however, the study has indicated that such default interpretations may be more complex than previously thought, and that the step from *possible* to *actual* interpretations might not be entirely clear-cut.

In the same way as existing studies of possessive interpretations, I employed relatively unbiased definitions of concepts such as salience, defaults, and the workshare between semantic decoding and pragmatic inference in utterance interpretation. In an attempt to reconcile the empirical evidence with what I believe is a more parsimonious theoretical stance, I offered a tentative explanation for the interpretational tendencies arising from the study. I suggested that utterance interpretation does not occur in a pragmatic vacuum, and that the determination of possible possessive interpretations might be better regarded as a uniformly *pragmatic* process. This, in turn, has raised important questions about the status of default interpretations, as well as whether their existence can tell us anything about what sorts of information, e.g. lexical knowledge and world knowledge, might feed into the interpretation process.

In sum, this chapter has initiated a discussion of possessive default interpretations along pragmatic lines. *Pace* Vikner & Jensen (2002, 2003, 2004), a pragmatic approach to default interpretations would be committed to the idea that it is not (solely) lexical semantic information inherent in the possessum noun or other parts of the construction which is responsible for their availability, but a complex mixture of different types of salience considerations culled from the utterance situation. Taken together, the empirical evidence, however tentative, suggests a substantial and more pervasive role for the context in the determination of possessive interpretations. Yet, in the absence of a more clearly delineated theoretical apparatus, it is difficult to treat this evidence as reliable enough to support an account of possessive interpretation which places heavier emphasis on pragmatic reasoning. The next chapter will take steps towards this endeavour by following up on the various lines of enquiry that I outlined in the previous section.

Chapter 4

Possessive default interpretations at the interface between semantics and pragmatics

“It is hardly contentious that there is often a part to communicated meaning that [...] is there by force of what we are like and how we function.” (Jaszczolt, 2005: 40)

4.1 Introduction

In the previous chapter, I presented the results of an empirical study into possessive default interpretations (henceforth PDIs). These suggested a more complex picture than has been predicted by accounts which take the main determinant of possessive interpretations to be the lexical semantic content of the possessum noun or the possessive marker. Falling out from this picture, a number of fundamental questions concerning the nature of utterance interpretation have remained unanswered, including the question of precisely how (P)DIs are determined. The present chapter seeks to address these questions with the aim of informing the argument from interpretation in a more qualitative way. At the same time, it seeks to provide a comprehensive definition of PDIs which is capable of explaining their systematic, but frequently non-uniform, derivation across participants. It does so by taking into account a number of insights from cognitive pragmatic approaches to utterance interpretation, which will be of central importance for the remainder of this thesis.

In particular, I discuss the notion of *default inferences* and how it has been used to describe the seemingly effortless recovery of much non-explicit conceptual content in the interpretation of linguistic material. Because this study is concerned with pre-nominal possessives, I limit my discussion to these by relating the findings from the empirical investigation to how defaults have been defined and delineated in the literature. I specifically examine claims regarding the recovery of the possessive relation by evaluating the empirical veracity of several Neo-Gricean

and Post-Gricean accounts. In light of the study results (see section 3.3.3), my central aim in this chapter will be to argue against rigid, word type and/or expression type-based definitions of PDIs which immerse one or more of the following: PDIs a) are semantic in nature and computed on the basis of lexically encoded information, b) arise locally as attached to certain possessive NPs, and c) are fully decontextualised.

Having rejected these claims, I argue that a conception of pre-nominal possessives as giving rise to default interpretations is promising if we decouple it from theoretical commitments of this kind and adopt a more flexible, addressee- and context-dependent definition which can account for both the stability and the variability among PDIs. *Contra* existing construals of PDIs, I put forward a novel definition which affords them the influence of addressee-dependent salience considerations and context: that is, a more pragmatic notion of PDIs along the lines I initiated in the previous chapter. Thus, while pre-nominal possessives inarguably give rise to a limited set of default interpretations, I suggest that these should be viewed as evidencing not the semantic basis of most possessive interpretations, but rather the fact that a substantial amount of pragmatic reasoning appears to determine what possessive relations are available for any possessive NP. The question of exactly how PDIs are determined, whose discussion I had to cut short in the previous chapter, will therefore receive a more satisfactory answer in the present chapter.

The chapter is structured as follows. In section 4.2, I introduce the notion of default inferences in more detail before outlining the central debate surrounding their theoretical status as either *context-dependent* or *context-independent* inferences. Section 4.3 elaborates on a number of proposals from the semantic and the pragmatic literature which are committed to either of these two positions. In doing so, I pay special attention to how these accounts have attempted to explain the often ‘fast and frugal’ interpretation of pre-nominal possessives. On the basis of this preceding discussion, I then delineate a tentative working definition of PDIs in section 4.4 before concluding the chapter in section 4.5.

4.2 Defining defaults

Let us begin by going back to basics and ask what constitutes a default interpretation. Fundamentally, Jaszczolt (2009, 2010, 2011, 2012) notes that some interpretations are special in that they arise in the absence of evidence to the contrary:

- (28) Some of my lecturers are brilliant.
→ *Not all* of my lecturers are brilliant.
- (29) You can have cake or ice-cream for dessert.
→ You can’t have *both*.
- (30) John dropped the picture frame and it broke.

→ John dropped the picture frame and *as a result* it broke.

(31) John's jumper is a bit too green for my liking.

→ *The jumper John is wearing* is a bit too green for my liking.

All four interpretations come with a somewhat 'automatic' flavour: that is, they are seemingly arrived at without much effort on the part of the addressee. It is this tendency that has given rise to the notion of default interpretations, which is by no means a straightforward concept, as obvious as their existence appears to be. Not only is its denotation ill-defined but, as we saw in the previous chapter, it is not always clear how to tell apart a default interpretation from a non-default interpretation when it comes to the descriptive content of a possessive NP.

What, then, makes a default interpretation? In her discussion of inference generation, Jaszczolt (2011: 28) speaks of "the common-sense assumption that default reasoning reflects 'salience' (in a pre-theoretic sense), common sense, and probability", concepts reminiscent of the frequency-based definition of defaults I adopted in the previous chapter. What Jaszczolt is trying to exemplify here is the problem of pinpointing exactly what a default interpretation amounts to. Despite strong intuitions that it is something along the lines of an interpretation that somehow stands out the most, occurs most often in discourse as opposed to other, perhaps more peripheral meanings, it is difficult to establish *a priori* what the default meaning of a given word or phrase should be.

The reason we have to rely on common-sense assumptions is the simple fact that there exists no reliable definition of default interpretations which would settle the matter once and for all. This void may be inextricably linked with the related issue of defining what the term *default* itself means. In the absence of a clear definition, it is difficult to identify what it describes. In other words, if we lack a transparent definition of what it means for a given sense to constitute the default meaning or interpretation of a linguistic expression, we cannot but volunteer mere guesses – perhaps based on intuitive criteria – as to which we take to be the default one.

There seems to be some sense, however, in sticking with such criteria for now and defining defaults as particularly 'salient' or 'automatic' interpretations until we have reviewed the literature and settled on a more elaborate working definition. With regard to this close connection, Allan (2011: 167) suggests that default and salient meanings at first sight inhabit opposing ends of the spectrum, in the sense that "[s]omething that is salient jumps out at you; by contrast a default is the fall-back state when there is no contextual motivation to prefer any other." What is more, salience ought to be defined with respect to individual speakers, whilst default meanings are somewhat more decontextualised, resembling dictionary entry type explanations of a word's denotation.

However, default and salient meanings also correlate to a certain degree. A default interpretation is effectively the most salient interpretation in the absence of a biasing context which would prime a non-default interpretation, i.e. similar to considerations of which is the most

frequent interpretation for a given context. Jaszczolt (2011: 28) concurs, suggesting that if a particular interpretation is the most salient one for a given context, it makes it the ‘default’ interpretation for this context.

This brief sketch of what has been said about default interpretations already reveals fairly distinct definitions of what they are taken to be. On the one hand, they are somewhat decontextualised and constitute a kind of fall-back option in the absence of contrary information. As such, they should be relatively invariant across speakers. On the other hand, they are defined as being on a par with *salient* interpretations, where salience is synonymous with prominence and defining of something that ‘leaps out’ at the hearer. Under such a conception, default interpretations are not necessarily variant across speakers: it is rare for speakers to misjudge background information in a way that would give rise to a completely different interpretation (ibid.). However, they do need to be defined with respect to individual speakers and individual contexts, which would, at least in theory, allow for different default interpretations.

Interestingly, these two viewpoints on default interpretations reflect a long-standing debate between a number of Neo-Gricean accounts and proponents of Relevance theory (e.g. Sperber & Wilson, 1986/1995; Carston, 2002), which I will now introduce in more detail.

4.2.1 Default interpretations and context

The idea of default interpretations as arising independently of context is a key feature of many Neo-Gricean accounts (e.g. Horn, 1972; Grice, 1975/1989; Levinson, 2000; Chierchia, 2004) which are concerned with the generalised character of interpretations similar to those in examples (28)-(31). For example, one of the cornerstones of Levinson’s (2000) account of presumptive or ‘preferred’ meanings is the automaticity with which certain inferences arise, which I will discuss in some detail in section 4.3.3. The decontextualised character of such interpretations is believed to lend evidence to the fact that we are dealing with default inferences, i.e. interpretations which are arrived at without conscious inferencing on the part of the hearer.

Jaszczolt (2012: 14) notes that the idea of defaults as being context-free, unmarked enrichments of the truth-conditional meaning of a linguistic expression has in fact become so popular that it is common to refer to Neo-Gricean theory, and particularly Levinson’s (2000) development of it, as *the* default view. By this she means the view whose definition of defaults should be chosen to test the time course of implicature generation (e.g. Noveck & Posada, 2003; Noveck & Sperber, 2004; Bezuidenhout & Morris, 2004; Breheny et al., 2006). In these studies, informants are typically presented with the alleged implicature-trigger in minimal contexts that would, according to Levinson (2000), result in the *automatic* derivation of a linguistic expression’s ‘pragmatic’ meaning.

It is evident from such uses of the term default that it is defined in terms of processing time. A short response time to a given implicature trigger in null contexts would add to the default

character of the inference in question. Similarly, a longer response time to said trigger in a context where the default meaning would have to be overridden first would equally lend evidence to the existence of a default interpretation. Moreover, as previously mentioned, it is tightly bound up with the notion of *context-independence*, where null contexts typically represent such de-contextualised environments. On this view, default interpretations arise *locally*, which is to say that they are attached to words or phrases and determined as soon as the lexical item in question has been processed. They are thought to be pre-propositional, automatic, and unavailable to conscious reflection (e.g. Recanati, 2002; 2004). Furthermore, they are said to be neither fully semantic nor fully pragmatic, but contain features characteristic of both.

The other major theoretical strand is Relevance theory (henceforth RT), which I will elaborate on in section 4.3.5. RT is committed to the idea of *nonce* inference throughout, so much so that both the classic distinction between generalised and particularised implicatures made by H.P. Grice (1975/1989) as well as the term *default inference* are done away with. Nonce inferences are interpretations which are derived ‘from scratch’ on every occasion. There is consequently no such thing as a default mechanism by which an interpretation is derived at without the addressee following a fully inferential comprehension procedure.

Thus, inferences of the kind Neo-Griceans regard as automatic (involving no pragmatic inference) and unmarked are re-analysed in RT as context-dependent and fully inferential, guided by the relevance-theoretic comprehension mechanism. The fact that certain inferences are more quickly accessible than others is taken to be a matter of highly accessible assumptions and readily available contextual information which is retrieved upon encountering a given word or phrase, as opposed to being attached to the lexical items themselves, e.g. as part of their lexical semantic make-up (cf. Vikner & Jensen, 2002, 2003, 2004). Under this Post-Gricean conception, then, what are referred to as default inferences in Neo-Gricean theory are instances of nonce inferences as much as any other, perhaps more ‘effortful’ interpretation. If we were to label them default interpretations nonetheless, it would be clear that RT’s definition is starkly opposite: default inferences are context-dependent (and thus post-propositional), inferential, and conscious as opposed to context-independent and subconscious.

While the intricacies of the respective positions will not be reviewed until the following section, their main differences may be summarised using the following categories (see Jaszczolt (2006b) for a more elaborate version):

1. Reliance on context

- a) Defaults do not require contextual support.
- b) Defaults can and do rely on information in the context.

2. Automaticity

- a) Defaults arise automatically and subconsciously, without the need to resort to prag-

matic reasoning.

b) Defaults involve pragmatic reasoning.

3. **Defeasibility**

a) Defaults always arise and have to be overridden in non-default contexts.

b) Defaults are a kind of nonce inference: no interpretation is computed and then overridden, but the contextually most salient interpretation is arrived at straight away.

4. **Locality**

a) Defaults arise locally as a result of being attached to lexical items.

b) Defaults arise globally, when context has been taken into consideration.

5. **Semantic or pragmatic?**

a) Defaults are semantic, arising from lexically encoded information.

b) Defaults are pragmatic, arising from pragmatic reasoning.

c) Defaults are both: they sit mid-way.

From this, Jaszczolt (ibid.) concludes that “[t]here are no compelling arguments for a unitary analysis of default meanings called ‘The Default View’”. While Levinson’s account may be practical from an experimental point of view, it is too absolute, a criticism I will further develop over the course of this chapter.

This does not mean, however, that we are relieved of the obligation to establish a coherent and empirically viable definition of default interpretations. Despite the fact that the definitional issue may at this point appear insurmountable, the existence of defaults (in their pre-theoretic sense) *per se* cannot be questioned. There simply does exist a strong tendency for certain interpretations to exhibit a somewhat automatised or generalised nature. The empirical results in Chapter 3 certainly confirmed this intuition. But where does this leave us? We have already seen that any static and rigid definition in terms of a selection of the above criteria is controversial, and yet this is what the vast majority of theoretical accounts use as their basis.

Is there a middle ground? Yes, if we believe Haugh (2011), who observes that there has been a shift in the literature from defining default interpretations as arising at a lexical level, and so as being relatively decontextualised (or what Grice (1975/1989) meant by arising in “normal circumstances”), to defining them at the level of *individual* utterances and speakers – what may be termed *pragmatic* defaults – whilst retaining the sense of generality that we observed in the empirical investigation. Jaszczolt’s (2005) work is particularly exemplary in this respect. *Contra* e.g. Levinson (2000), who defines default interpretations as arising as a result of being attached to a particular expression type, i.e. before context is taken into account, she maintains that they should be defined as automatic interpretations that arise as a result of various sources which, importantly, include the context. A natural consequence of this view is that defaults are

not decontextualised but can and do arise in certain contexts, drawing upon contextual cues and information as much as other, more co-textually embedded interpretations.

Given the automatic nature of such interpretations, it is evident that Jaszczolt (ibid.: 14) too defines default meaning in terms of processing time, or as “the interpretation that is arrived at automatically, as opposed to information that is consciously inferred”, without however committing herself to much beyond this. In other words, while default interpretations do arise automatically, they are not restricted to any one context (e.g. a null context), but come about as a result of whatever context they appear in. So defined, they “are defaults *for the context and for the speaker*” (2011: 3, emphasis in original) rather than lexically bound defaults. It is clear that Jaszczolt’s definition of defaults is more flexible and more forgiving in the sense that it suggests that various combinations of the above categories can work together in constituting a default interpretation for a given utterance and speaker. It thus represents a middle-ground between the Neo-Gricean position and RT, which sit at rather opposite ends of a continuum.

Having briefly sketched the two main theoretical positions that have been taken with regard to the definition and characterisation of default interpretations, I will now spend some time elaborating on the individual proposals. In particular, I will evaluate them with regard to how well they are able to account for the numerous default tendencies of pre-nominal possessives that we observed in the previous chapter.

4.3 Possessive defaults

As mentioned in Chapter 1, pre-nominal possessives constitute an interesting case of *linguistic underdeterminacy*. This is so because their propositional content is drastically underdetermined by the semantic contribution of the possessive marker. As such, the relation that holds between the possessor and the possessum has to be worked out by the addressee on an utterance by utterance basis. Or does it?

An interesting observation is that the input from context to the determination of the possessive relation appears to be variable depending on the noun which fills the possessum slot:

- (32) **My head** hurts.
- (33) Did you see **Peter’s sunset**? It’s beautiful!
- (34) **Rome’s destruction** and the history of English
- (35) **Jane’s story** was fascinating.
- (36) Could you sit in a different place? This is **John’s chair**.

Of the above, only (32) and (34) seem to be interpretable without any help from the linguistic context, so that the relation between the speaker and the head in (32) is a part-whole one, without evidence to the contrary. In (34), the determination of the relation between Rome and

the destruction seems equally straightforward: Rome is its undergoer. Notice, however, the fact that without contextual elaboration, the relations holding between Peter and the sunset in (33), and Jane and the story in (35), are considerably more difficult to establish: Peter could have painted the sunset, or watched one at the weekend that he told all his friends about, or indeed stand in any other plausible relation to it. The same, in theory, holds for Jane and the story too, but even without much embedding in context we are in a position to establish two plausible candidates: *Jane's story* could either refer to the story told by Jane, or the story which is about or which features Jane. Example (36) sits somewhere in the middle and is ambiguous between the chair that John tends to sit in and the chair he owns, neither of which excludes the other.

It seems, then, that some pre-nominal possessive NPs have a rather stable meaning, suggesting that the possessive relation may not need to be inferred on an utterance by utterance basis. The question that is raised by this observation is how we interpret pre-nominal possessives, or, put differently, how we seemingly effortlessly succeed in securing the intended reference of the speaker given that the relation which holds between the two entities is not always spelled out explicitly in context. This question is entirely fundamental in nature: it asks how we understand each other despite the fact that the grammar of our language is vastly underdetermining of the variety of meanings we put it to. Pre-nominal possessives are but one exemplification of such semantic economy. On the level of possible possessive interpretations, this question might be narrowed to an equivalent question: how precisely do certain possessive NPs make available a limited number of candidate relations that will then have to be evaluated for suitability in the context at hand at the level of actual possessive interpretations?

In the following, I will elaborate on and review in more detail the accounts I briefly introduced in section 4.2.1. Amongst other things, these accounts attempt to answer the above question by exploiting the observation that some pairings of form and context tend to receive preferred interpretations. It is precisely this observation that is thought to explain quite naturally the ease with which interlocutors enrich underdetermined linguistic expressions in communication. Both Neo- and (some) Post-Gricean approaches to inference generation postulate the existence of automatic and subconscious default inferences on the basis of such preferred interpretations. Relevance theorists reject this idea, arguing in favour of context-dependent nonce inferences on all occasions in its stead.

Looking at the literature, the kind of implicit meaning we are concerned with, i.e. the pragmatic enrichment that proceeds seemingly effortlessly in impoverished contexts, goes by a variety of labels:

1. **Lexical/semantic interpretations** (Vikner & Jensen, 2002, 2003, 2004)
2. **Generalised conversational implicatures** (Grice, 1975/1989; Levinson, 2000)
3. **Outputs of primary pragmatic processes** (Recanati, 1989, 1993, 2002b, 2004)

4. **Explicatures** (e.g. Sperber & Wilson 1986/1995; Carston, 1998, 2002, 2007)
5. **Outputs of merger representations** (Jaszczolt, 2005, 2006a)

I will now elaborate on and evaluate each of these proposals in turn, focussing in particular on how they have attempted to explain the default character of many possessive interpretations.

4.3.1 Lexical interpretations (revisited)

In this section, I come back to a number of issues whose discussion I had to leave untouched in the previous chapter, where I presented in detail the ways in which possessive interpretations are envisaged in formal semantic accounts. It was evident that this literature, and especially Vikner & Jensen's work, employs the first premise of the argument from interpretation as a methodological foundation for its claims. This is the argument that pre-nominal possessives give rise to default interpretations or not depending on the possessum noun's and the possessive marker's lexical semantics. In other words, null context interpretability is thought to evidence that the interpretation of a given possessive NP is largely determined by the information semantically encoded by its construction parts.

The empirical results for the most part confirmed the *per se* existence of PDIs in that a limited number of categorical interpretations could be discerned for virtually every possessive NP in the study. However, I also observed that, frequently, more than one interpretation was available to participants and that a significant amount of world knowledge appeared to play into the determination of such interpretations. The central debate surrounding Vikner & Jensen's use of the first premise as evidencing the semantic nature of most possessive relations concerns the question of whether default interpretations really should be regarded as interpretations that arise completely independently of pragmatic reasoning. In other words, is it plausible to regard PDIs as arising out of a pragmatic vacuum?

It is important to reiterate at this point that Vikner & Jensen's analysis is concerned with *possible* interpretations only and does not aim to predict *actual* interpretations in fully-fledged contexts. Yet, as I will argue, what Vikner & Jensen construe as possible interpretations are in fact a set of the *most likely* relations that may hold between a particular possessor and possessum based on a number of contextually salient assumptions. Against the background of my brief discussion in the previous chapter of whether context-free interpretations exist, I will now discuss some of the problems associated with lexicalist accounts in explaining the role of default interpretations. These include the problem of defining null contexts, where to draw the line between linguistic knowledge and world knowledge, and the notion of *decontextualised* interpretations.

4.3.1.1 Defining null contexts

Null contexts are informationally low, “unbiased” (Chierchia, 2004: 51) contexts which lack any indication of the relation which holds between the possessor and the possessum, e.g.

- (37) **John’s car** (is nice)
- (38) **Peter’s tree** (is green)
- (39) **The girl’s teacher** (is kind)

I wish to discuss just one representative example of PDIs that I already briefly mentioned in the previous chapter. Amongst a number of other lexical interpretations, null contexts are thought to give rise to producer interpretations. These supposedly arise for possessive NPs such as *John’s salad* or *John’s snowman*. With regard to the latter, Vikner & Jensen (2003: 181-182; my emphasis) write that,

“[i]f the producer interpretation were not semantic, we would have no explanation of the fact that in an example such as [(40)]:

- (40) The French believe they can, but one has only to read **their books** to mark ...

the phrase *their books* is immediately interpretable as ‘the books they have written’. And similarly with *their literature* in [(41)]:

- (41) Avoiding warfare, the Icelanders esteemed political flexibility and legal acumen, a cultural focus that is seen in **their literature** ...

In neither of these examples does the surrounding context contain any information supporting the producer interpretation, and it is hardly likely that these instances of producer interpretations derive from any common background knowledge of the French or the Icelanders. So, therefore, we posit that these must be semantic producer readings.”

It is obvious from this quote that Vikner & Jensen’s idea of what constitutes a null context is by and large limited to the linguistic co-text. Thus, because examples (40) and (41) allegedly contain no overt explication of the possessive relation, they conclude that the producer relation must be encoded in the lexical entry of artefact-denoting nouns. Interestingly, they make no distinction between the kind of mini-malistic contexts in examples (37)-(39) and the rather more elaborate contexts in the examples they cite. Thus, null contexts are not defined as *entirely* devoid of any surrounding co-text (though of course they can be), but instead as any context which – to them – contains no overt indication of the possessive relation. Let us explore this idea.

Firstly, it is striking that the availability of the producer interpretation differs quite dramatically if we abstract away from the cited contexts in (40) and (41) and replace them with truly minimalistic ones, such as these:

(42) the French's books

(43) the Icelanders' literature

Arguably, (42) and (43) give rise to both producer ('writing') and control ('reading') relations, and more context is needed to disambiguate between these two readings. Vikner & Jensen concede this, stating that in many cases the producer reading may simply not be the most salient one, but that it still arises alongside other, allegedly semantic interpretations. This may well be true, but here it is not clear that we are still moving within the boundaries of the theory, which is supposed to solely predict possible interpretations. This is an issue I already touched upon in the previous chapter and will come back to in the next section.

What is more problematic is the fact that the context clearly disambiguates the relation in example (40): the readership relation is already assigned to the general public, so that the most likely relation for the French to enter into is one of agenthood (authorship). Vikner & Jensen make no mention of this, thus basing their definition of a null context on a context which clearly explicates the relevant relation. These difficulties suggest that delineating null contexts is not only a subjective matter, but also that the idea of null contexts as eliciting semantic relations, while plausible, is misapplied by Vikner & Jensen. This is so because their definition presupposes the existence of context-free interpretations, a point which I already suggested is problematic given the various kinds of assumptions we bring to bear in the interpretation of utterances.

4.3.1.2 Linguistic knowledge vs. world knowledge

I have just argued that Vikner & Jensen's argument of null contexts as giving rise to lexical interpretations is problematic inasmuch as their definition is both subjective and presupposes the existence of interpretations which take place in a pragmatic vacuum, i.e. free from the influence of background assumptions or knowledge interlocutors may have of the world. A related problem concerns the differentiation between linguistic knowledge and world knowledge. In other words, if null contexts are defined as contexts which provide the addressee with no more than lexically encoded information about the meanings of linguistic expressions and wholly exclude any other kind of knowledge, we should be able to prise apart such information from what is more commonly regarded as encyclopaedic or world knowledge.

Coming back to examples (40) and (41), Vikner & Jensen's claim that we are not dealing with common knowledge of the French or the Icelanders is, however, not particularly convincing. While we may lack common knowledge of particular nations (such as the French or the

Icelanders), we may nevertheless know that nations more generally produce cultural artefacts (including books), and on that basis be in a position to derive the producer interpretation in example (41). The inferential step from nations in general to the French/Icelanders as producing artefacts is then purely a matter of deductive reasoning:

- i. Nations produce cultural artefacts, such as books or literature.
- ii. The French and the Icelanders are nations.
- iii. Therefore, the French and the Icelanders produce cultural artefacts, such as books or literature.

This suggests that the determination of a producer interpretation in examples (40) and (41) is no more obviously a matter of lexically decoded information than it is a matter of salience considerations. In other words, addressees are likely to derive this interpretation on the basis of accessible world knowledge. At the same time, other interpretations might be conceivable, depending on what kind of assumptions are at the forefront of the addressee's mind at the point of processing the utterance. Vikner & Jensen's claim to the effect that producer interpretations are semantic in nature is thus not entirely convincing on the basis of the mere theoretical evidence they provide. This should ring especially true in light of the empirical evidence we saw in Chapter 3, where producer interpretations were nowhere near as consistent as inherent or part-whole interpretations.

Therefore, it appears that salience considerations come into play at both the level of possible interpretations and the level of actual interpretations. Despite the fact that Vikner & Jensen are committed to a salience-free notion of possible interpretations, they actually operate from an extremely narrow definition of what constitutes possible interpretations for a given phrase, subsuming only those which are the most *likely* in a pretend null context. However, this is implausible given that the availability of possible interpretations is virtually endless for each possessive NP due to the semantic underdetermination of the possessive marker. By contrast, the availability of a number of *salient* possible interpretations is limited. It is precisely these that Vikner & Jensen call 'possible' lexical interpretations. Claiming that default interpretations derive from lexically encoded information which yields consistent interpretations on the basis of complex lexical-semantic rules might then simply be too rigid to explain the non-default interpretations which participants discerned for many of the NPs in the experimental study.

Furthermore, unless it is somehow possible to draw the line between world knowledge associated with words and knowledge that is linguistically encoded in the lexical entry of these words, I maintain that the semantic nature of the producer relation is questionable. Of course, this holds not merely for the producer relation, but might be regarded as epiphenomenal of a more general principle which underlies the interpretation of *all* possessive interpretations. To

conclude my discussion of lexicalist approaches, I will now consider the repercussions of the fuzzy line between linguistic and world knowledge for the demarcation of null contexts as a special subset of what constitutes a ‘context’ more generally.

4.3.1.3 Decontextualised interpretations

It should have become sufficiently clear from my previous discussion that what Vikner & Jensen term possible interpretations are in fact strongly influenced by salience considerations. Furthermore, I have argued that this blurs the line between world knowledge and linguistic knowledge. This problem is important to stress because it illustrates how difficult it is to discern how many of the assumptions we bring to bear in the interpretation of utterances are actually free from contextual influence. It would be fair to say that Vikner & Jensen are justified in making relatively generalistic claims about possessive interpretations, given that they (more or less convincingly) claim to stay within the boundaries of a theory which aims to capture interpretive tendencies and predict (salience-free) possible interpretations only.

Yet, given what we have established up to this point, it appears inevitable to make recourse to pragmatics and acknowledge that default interpretations of the kind Vikner & Jensen discuss may be no different to the interpretation of more fully contextualised utterances: that is, they underlie considerations of what is the most *likely* interpretation to the same extent. Therefore, it appears as though Vikner & Jensen are already treading in pragmatic waters.

Crucially, one of the cornerstones of many pragmatic theories is that utterances are interpreted against a set of contextual assumptions. These can include world knowledge, discourse knowledge (e.g. the preceding linguistic context), as well as encyclopaedic knowledge (Sperber & Wilson, 1986/1995; Falkum, 2011b). Default or ‘out of the blue’ interpretations can be explained by the fact that certain contextual assumptions are more strongly activated in the addressee and thus more easily retrieved. Falkum (2011b: 2) notes that,

“[g]iven this, it is possible that interpretive preferences [...] in the absence of further context could stem from highly accessible real-world knowledge about the denotations of the lexical concepts in the utterance, and not from lexically stored information. At least it seems clear that in its generation of compositional interpretations the [interpretive] mechanism posited by the GLT makes heavy use of information that might just as well count as general world knowledge, and no justification seems to be given for why certain information is considered linguistic knowledge while other types of information would be considered part of our general world knowledge.”

Therefore, it is not clear that what Vikner & Jensen consider to be *linguistic* knowledge should really be regarded as such or whether, for example, the interesting behaviour of items in the Producer group might not be better viewed from a world knowledge perspective. In

other words, what Vikner & Jensen couch in rather complex semantic terms by stipulating an interpretation taxonomy which relies on several different semantic sources (see Table 3.2) might just as well be regarded in more uniform terms by designating the ‘interpretive labour’ to the addressee’s pragmatic-inferential system.

While the debate over what knowledge should be regarded as encyclopaedic as opposed to linguistic underlies the question of where to draw the line between lexical and pragmatic interpretations, providing a conclusive answer to this question is beyond the scope of this thesis. It is, however, important to point out that, unless the distinction between linguistic and encyclopaedic knowledge is clearly demarcated, the alleged semantic nature of producer interpretations remains questionable.¹ Moreover, the empirical evidence clearly suggests that salience is a feature of impoverished contexts as much as it comes to bear in richer contexts. Given the lack of the distinction, it is difficult to hold on to the idea that there exists such a thing as a true null context which gives rise to interpretations in a vacuum.

I therefore maintain that the determination of possible interpretations does not constitute a special subset of interpretations which is free from the influence of background assumptions and pragmatic reasoning. Rather, null contexts should be regarded as utterance contexts in their own right which trigger interpretations that are guided by considerations of what might constitute the most likely interpretation in that particular context. Importantly, they do so to the same extent as more fully-fledged linguistic contexts. PDIs then do not evidence the semantic nature of possessive relations, but the fact that a substantial amount of pragmatic reasoning already feeds into the determination of possible interpretations.

In summary, lexicalist approaches like the GLT and Vikner & Jensen’s GLT-based approach, while attractive as far as they capture some of the interpretive tendencies exhibited by possessive phrases, suffer from serious inadequacies. Most importantly, they blur the line between world knowledge and lexical knowledge, suggesting that much of the information that more plausibly belongs to our knowledge of the world and the way things tend to be should be viewed as being encoded in the lexical entries of predicates. This is clearly a complicated debate, which is beyond the scope of the current chapter. What we have seen, however, is that pragmatic reasoning already plays an important part in the interpretation of relatively isolated possessive NPs.

Ultimately, this point gives rise to a more fundamental issue. This is the question of whether, from the point of view of theoretical parsimony, it makes sense to distinguish between two different systems – the semantic and the pragmatic one – which derive different kinds of interpretations based on different types of information associated with the possessive NP in question. What is to be won by making a distinction between semantic or lexical interpretations, derived on the basis of lexically encoded information, and pragmatic interpretations, derived on the

¹For a good overview of issues on the lexicon-encyclopaedia interface, see Peeters (2000).

basis of world knowledge, given that world knowledge, as we have seen, appears to feature already at the level of lexical interpretations?

Falkum's quote certainly suggests that adopting an alternative view according to which occasion-specific concepts denoted by linguistic expressions come about as a result of encyclopaedic or real-world knowledge might offer a more parsimonious account. How a pragmatic conception of PDIs would be able to explain both stable and more deviant interpretations in the same, if not a better way, is something I will return to in section 4.4.

With this in mind, I will now discuss accounts of utterance interpretation which deal from a theoretical and cognitive pragmatic point of view with interpretive tendencies of the kind Vikner & Jensen take to be indicators of semantic content. Having rejected Vikner & Jensen's use of the first premise for the taxonomisation of possessive interpretations largely because it misapplies the notion of null contexts to the interpretation of pre-nominal possessives, I will now gradually move towards both a more flexible and more pragmatic notion of PDIs. I begin by tracing its origins in the work of H.P. Grice, which was seminal in establishing that utterance comprehension is more than a sophisticated form of decoding semantic content but constitutes a process which relies heavily on pragmatic-inferential reasoning.

4.3.2 Grice's inferential model of communication

Grice's (1975/1989) account of *conversational implicature* was as much a response to the explanatory inadequacy of the code model of communication (e.g. Shannon & Weaver, 1949) as a more viable alternative to it. According to this model, communication proceeds by means of the encoding and decoding of information. Using a code (language), a speaker is thought to encode his thoughts into an utterance which is subsequently decoded by the hearer. Grice observed that this model was grossly underdetermining of what happens when a speaker and a hearer communicate. Often, no code is involved in the first place, as for instance in non-verbal communication. Additionally, utterance comprehension is frequently a matter of working out extra layers of meaning since the language we use does not fully encode what we express when we put it to use. A code model would thus merely be able to predict the part of the utterance that was encoded in its semantics (and to be decoded by the hearer), but would fail to offer an explanation for any communicated content beyond this.

Grice responded to these inadequacies by introducing the first *inferential* model of communication. This assumes that communication is fundamentally intentional on the part of the speaker and that the hearer needs to recognise this communicative intention in order to be able to understand the speaker's utterance. This kind of rational conversational practice is captured in the co-operative principle and its four maxims:

The co-operative principle

“Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.” (Grice, 1975/1989: 26)

The four maxims of conversation

Quality: Try to make your contribution one that is true.

- (i) Do not say what you believe to be false.
- (ii) Do not say for which you lack adequate evidence.

Quantity:

- (i) Make your contribution as informative as is required (for the current purposes of the exchange).
- (ii) Do not make your contribution more informative than is required.

Relation: Be relevant.

Manner: Be perspicuous.

- (i) Avoid obscurity of expression.
- (ii) Avoid ambiguity.
- (iii) Be brief (avoid unnecessary prolixity).
- (iv) Be orderly.

Another important distinction that was first introduced by Grice, shaping the field of pragmatics as the study of non-truth-conditional meaning, was the distinction between what is *said* and what is merely *implicated*. Grice’s conception of what is said comes close to what is commonly regarded as truth-conditional or ‘literal’ meaning, i.e. meaning stripped of any extra content – in short, propositional content.² On the other hand, what is implicated subsumes whatever exceeds truth-conditional meaning, and is thought to be computed on the basis of, and subsequent to, what is said. This level includes both conventional and conversational implicatures, which I will discuss in greater detail in the next section. The motivation for this extra level of meaning came from Grice’s recognition that an utterance does not encode the entirety of meaning to which it can be, and frequently is, put. Consequently, several kinds of non-natural meaning are differentiated (see Huang (2007: 57)):

²Grice does allow for some pragmatic intrusion into what is said, but this is limited to reference and deixis resolution and the disambiguation of ambiguous expressions (Grice, 1975/1989: 25).

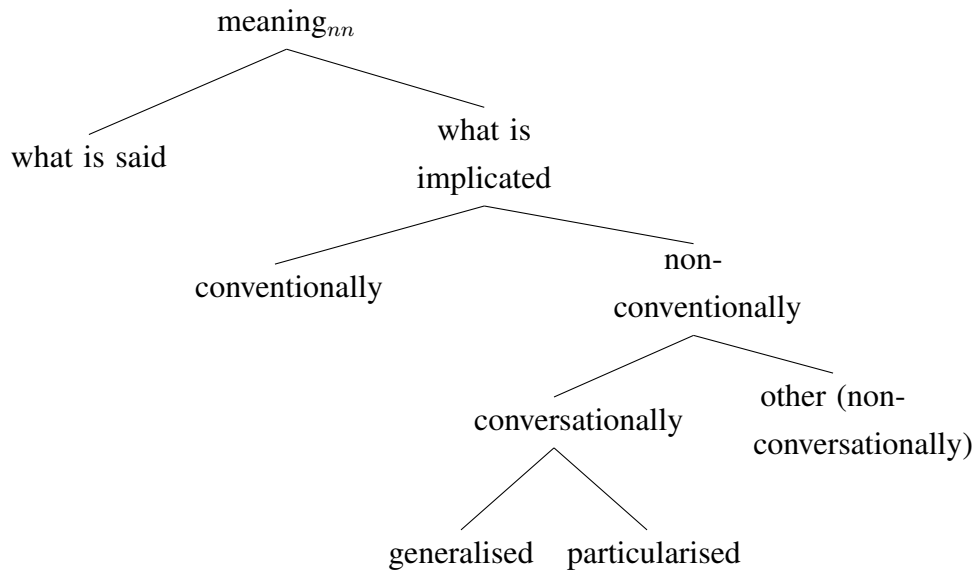


Figure 4.1: Types of non-natural meaning (based on Huang (2007: 57))

The distinction between what is said and what is implicated bridges the gap between the encoded meaning of a linguistic expression and the extra content that may be communicated by the speaker. Implicated content, then, comes in two flavours: it may be either *conventionally* or *non-conventionally* linked to words. Conventional implicatures arise independently of the cooperative principle and as a result of being attached to words and how these are conventionally used.³ Non-conventional *conversational* implicatures arise subsequent to the adherence to, or the flouting of, the four maxims of the cooperative principle, the details of which I will neglect here. By contrast, the distinction between the two kinds of conversational implicatures, which is of central importance to the topic of PDIs, deserves some more attention.

4.3.2.1 Generalised vs. particularised conversational implicature

The distinction between generalised and particularised conversational implicatures (henceforth GCIs and PCIs respectively) bears predominantly on the different degrees of contextual support that is needed to derive a certain implicature. A classic example in the pragmatic literature is the default enrichment of the word *some* to mean ‘not all’. This inference is thought to arise from a scalar implicature (e.g. Horn, 1972; Levinson, 1983), i.e. an inference that derives from the use of the weaker term of an informational scale such as $\langle \textit{some}, \textit{all} \rangle$ when the stronger term could have been used instead.

The underlying idea is that, by using the informationally weaker term (*some*), the speaker implicates the negation of the stronger one (*all*). For Grice, such an implicature constitutes a

³For example, *but* and *however* usually convey some form of contrast despite being truth-conditionally equivalent to the logical operator ‘&’.

stereotypical example of a GCI: that is, an inference caused by “the use of a certain form of words in an utterance [which] would normally (in the *absence* of special circumstances) carry such-and-such an implicature” (Grice, 1975/1989: 37; my emphasis). To illustrate the generalised character of such inferences, Grice distinguished a second type of conversational implicature called PCIs, which arise in the *presence* of a specific context. Consider the following examples (where +> stands for ‘conversationally implicates’):

- (44) A: How did the lesson go?
B: Some of my students were eating biscuits.
+> (GCI) Not all of my students were eating biscuits.
+> (PCI) The lesson didn’t go very well.

In other contexts (induced by A’s utterance), B’s utterance does not carry the same PCI:

- (45) A: The cookie tray in the common room was annoyingly empty this morning.
B: Some of my students were eating biscuits.
+> (GCI) Not all of my students were eating biscuits.
+> (PCI) They might have taken the remaining biscuits.

GCI and PCI are thus defined as inhabiting almost opposite ends on a spectrum of contextual explication. While the latter arise in the presence of a particular context, and so are entirely variable, the former arise in its absence and are thought to be relatively stable across contexts. In his work, Grice regrettably makes no mention of pre-nominal possessives and their interpretive tendencies. It was Levinson’s theory of presumptive meanings, an elaboration of Grice’s account of GCIs, which first made specific claims about their interpretation.

4.3.3 Levinson’s presumptive meanings

The degree to which GCIs arise in the absence of biasing contexts led Levinson (1995, 2000) to explain their automaticity in terms of so-called *default heuristics*. Levinson’s account of presumptive or *preferred* meanings was the first of its kind to sketch the ‘across context’ character of Grice’s GCIs in terms of default meaning.⁴ According to Levinson, GCIs do not arise post-propositionally or globally – because a speaker observed or flouted any or several of the maxims of the co-operative principle – but locally and pre-propositionally as a result of being attached to lexical items. In that sense, they are “generated ‘by default’, i.e. blindly, as soon as the relevant form of words is encountered” (Recanati, 2003: 7), and “without inference” (ibid.), without however losing their defeasibility.

⁴As noted by Jaszczolt (2012: 4), Grice did not necessarily view GCIs as an instance of default inference. His concern was merely with speaker meaning as opposed to the hearer’s interpretation of it, which default meaning would be a part of.

This automaticity, Levinson continues, rests on expectations of how language tends to be used, and so is located midway between the standard dichotomy of utterance-token meaning, i.e. the actual, fully contextualised meaning linguistic material assumes in communication (often labelled *pragmatic* meaning), and sentence-type meaning, i.e. truth-conditional meaning (often labeled *semantic* meaning) (Huang, 2007: 203-204). In contrast to Vikner & Jensen’s construal of default interpretations as arising independently of pragmatic considerations, they are thus neither fully semantic nor fully pragmatic. Instead, they arise from an intermediate level called *utterance-type meaning*, which amounts to “more than encoded linguistic meaning but generally less than the full interpretation of an utterance” (Carston, 2004a: 181). The derivation of implicatures at this level is then not so much a matter of a certain choice of words paired with a certain choice of context (cf. PCIs), but merely rests on the principle of *preferred* meanings: that is, meanings resulting from a certain choice of words paired with certain expectations of what this choice of words usually, stereotypically denotes.

Much like Vikner & Jensen’s (2002) account, Levinson’s account of default interpretations is thought to be fully generative: that is, it suggests a number of principles – *heuristics*, in his words – that on the one hand equip the speaker with a powerful helping hand in opting for “the right expression to suggest a specific interpretation” (Levinson, 2000: 24) and, on the other hand, aid the hearer in inferring the speaker-intended interpretation. Furthermore, Levinson (ibid.: 4) writes, they are “powerful heuristics that give us preferred interpretations without too much calculation of such matters as speakers’ intentions, encyclopaedic knowledge of the domain being talked about, or calculations of others’ mental processes.” They are thus closer to the kind of lexical meaning Vikner & Jensen (2002) talk about and yet rely to some extent on pragmatic reasoning. How well can this proposal account for PDIs?

To answer this question, I will focus my discussion on the I-heuristic, which specifically subsumes the interpretation of pre-nominal possessives and which constitutes the informational content equivalent development of Grice’s second maxim of Quantity.⁵

I-heuristic (from Levinson, 2000: 114-115; my addition)

“Speaker’s maxim: the maxim of Minimization.

“Say as little as necessary”; that is, produce the minimal linguistic information sufficient to achieve your communicational ends (bearing [the] Q[-maxim] in mind).

Recipient’s corollary: the Enrichment rule.

Amplify the informational content of the speaker’s utterance, by finding the most specific interpretation, up to what you judge to be the speaker’s m-intended point,

⁵Note that the M-heuristic, spelled out below, performs a similar job but is specifically devoted to the *form* of linguistic utterances rather than its informational content.

M-heuristic (simplified)

Speaker: Do not use a marked expression without reason.

Addressee: What is said in a marked way is not unmarked.

unless the speaker has broken the maxim of Minimization by using a marked or prolix expression.

Specifically:

- a. Assume the richest temporal, causal and referential connections between described situations or events, consistent with what is taken for granted.
- b. Assume that stereotypical relations obtain between referents or events, unless this is inconsistent with (a).
- c. Avoid interpretations that multiply entities referred to (assume referential parsimony); specifically, prefer coreferential readings of reduced NPs (pronouns or zeros).
- d. Assume the existence or actuality of what a sentence is about if that is consistent with what is taken for granted.”

Levinson (2000: 117ff.) provides a list of phenomena subsumed under the I-heuristic, some of which are the following:

Bridging

- (46) John unpacked the picnic. The beer was warm.
+> The beer was part of the picnic.

Mirror maxim

- (47) Harry and Sue bought a piano.
+> They bought it together, not one each.

Noun-noun compounds

- (48) The oil compressor gauge.
+> The gauge that measures the state of the compressor that compresses the oil

Specializations of spatial terms

- (49) The nail is in the wood.
+> The nail is buried in the wood.
- (50) The spoon is in the cup.
+> The spoon has its bowl-part in the cup.

Possessive interpretations

- (51) Wendy's children
+> those to whom she is parent

- (52) Wendy's house
 +> the house that she lives in
- (53) Wendy's responsibility
 +> the one falling on her
- (54) Wendy's theory
 +> the one she originated

Interestingly, Levinson includes the interpretation of pre-nominal possessives under the I-heuristic. His motivation to do so stems from the very fact I observed at the outset of this chapter, namely that many pre-nominal possessive NPs are interpretable in null contexts. Levinson's answer to how this is possible lies in the existence of default interpretations which are attached to these phrases, making them local in nature. However, this is not unconditionally so. For example, Levinson suggests that the encoded meaning of *Bill's book* is of a more general and vague nature, there being some relation between Bill and a particular book, but that in its fully fleshed-out form, "the relation might be a relation of writing, reading, owning, borrowing, editing, and so forth as given by an I-inference *in the context*" (Levinson, 2000: 207; my emphasis).

The idea that some degree of contextual input is necessary in order to be able to identify the relation expressed by the NP in question is something that sets their interpretation apart from that of scalar expressions, such as *some* and *or*. These are subsumed under the Q-heuristic and thought to require no help from context (but cf. Geurts, 2010: 82-102). Regrettably, the relation between the default and 'across context' character of an I-inference and the degree to which it relies upon context remains unclear in Levinson's account, which leaves us with a rather sketchy picture of how PDIs are arrived at. However, it could be that Levinson is referring to salience considerations of the kind I discussed in section 4.3.1. It seems, then, that PDIs rely on explicit context in some instances, and not in others, but that they are *usually* interpretable in contexts which are not overly explicit with regard to which possessive relations holds between the possessor and the possessum.

In fact, despite this rather heterogeneous nature of PDIs, Levinson happily concedes that I-inferences may simply not be as systematic as Q-inferences. That this should be so might be explainable by the fact that I-inferences bear on *background knowledge*. Scalar implicatures seem rather more consistent because of their complementary nature, meaning that their interpretation merely wavers between two opposing alternatives which are paradigmatically specified in the linguistic system. Additionally, the distinct kind of background knowledge that comes into play in the derivation of, say, bridging inferences and possessive interpretations is likely to differ. The fact that beer may constitute part of a picnic could be entirely culture-specific, and so be a matter of past experience, while the inference from *Wendy's children* to 'the children to whom she is parent' may be more related to general knowledge about the world and stereotypical associations between things.

Nevertheless, on the basis of the variability exhibited by most inferences subsumed under the I-heuristic, Levinson (2000: 119ff.) delineates a set of properties that all of the phenomena share:

- i. They are inferences to more specific interpretations: what is implicated is a specialization of what is said.
- ii. The inference is positive in character: the extension of what is implicated is a proper subset of the extension of what is said [...].
- iii. The inference is typically guided by stereotypical assumptions; to spell such inferences out more fully would be both redundant and onerous, and perhaps (in the case of euphemism, etc.) socially undesirable.
- iv. The inference makes no essential reference to something else that might have been said but wasn't (call this the absence of a metalinguistic element)."

PDI's generally seem to fulfil these properties. For one thing, the implicatum – the precise possessive relation that holds in a given context – is more specific than what is said, which Levinson takes to be no more than some unspecified relation *R*. Furthermore, we seem to arrive at the possessive relation by resorting to stereotypical assumptions about what might be the most likely relation. It is also legitimate to say that spelling out the relation would sound unnatural, e.g. that between a dog and his tail by opting for *the tail that is attached to the dog* as opposed to *the dog's tail*, which is something I will revisit in section 5.5.3.1. Levinson's characterisation of possessive interpretation thus at first sight has its appeal because it captures adequately what happens in the process, as far as this is amenable to introspection. However, upon further scrutiny, it runs up against a number of problems, to which I now turn. These may be summarised as follows:

- a) Some input from context is deemed necessary in the derivation of the possessive relation.
- b) The interpretation of pre-nominal possessives can have multiple outcomes.
- c) Unless we know what the locus of the possessive relation is, the type-token distinction appears blurred.

4.3.3.1 Possessives and contextual support

The first issue concerns an observation which Levinson (2000: 207) makes himself and which has subsequently been heavily criticised (e.g. Carston, 1995). This concerns the very variability I just noted, i.e. the fact that, in order to derive a plausible interpretation of a given pre-nominal possessive NP, some degree of contextual support is needed. According to Carston (ibid: 221),

“Levinson wants to develop a theory of generalised implicatures which accounts for them as preferred or default interpretations but there is no reason to suppose that any one of the listed relations is the default interpretation, either for the [pre-nominal possessive] construction in general or for the particular instantiation of it here, ‘Paul’s book’. It is no more obvious or stereotypical that the book is one Paul read than that it is one he has just bought or one that he gave to Mary, and so on. The idea of default interpretations [...] for this example is not just problematic, it is a complete non-starter. What seems to be involved here is not stereotypicality or any broader notion of the non-controversial but some concept of relevance or contextual appropriateness; that is, the I-principle doesn’t apply in any of its manifestations.”

Carston makes two claims here: firstly, that the pre-nominal possessive construction on the whole has no one default interpretation, and, secondly, that neither does any given instantiation of it. Consequently, we cannot speak of defaults in the first place. The alternative she has in mind is a consideration of the overall context and the subsequent selection of the most *relevant* relation. Selecting this relation would then not be a matter of adhering to the comprehension procedure suggested by the I-heuristic, but a matter of conscious pragmatic inference which takes into consideration the full context of the utterance. I will introduce this proposal, including the technical notion of *relevance*, in section 4.3.5.

Whilst I do not wish to invalidate Carston’s claims, for the time being I believe that they are too sweeping. Firstly, I disagree with the idea that the pre-nominal possessive construction does not have a single default interpretation, however this is to be defined. Even without any firm criteria of what the nature of such a default interpretation should be, it is hard to contest that some shade of ‘possession’ or ‘control’ is clearly available when we consider the construction in isolation (see also Nikiforidou, 1991; Taylor, 1996; Vikner & Jensen, 2002). Secondly, the implication that there is something wrong with the idea of multiple defaults in and of itself is not qualified further. Yet, while the claim is rather strong, it is not one I wish to reject wholly, but will come back to in the following section.

What Carston’s critique boils down to, then, is the rejection of defaults as defined in terms of generalised implicatures which arise outside of context when, as Levinson himself acknowledges, some degree of contextual support is necessary in the determination of the possessive relation. In other words, why treat default interpretations in a different way to other kinds of interpretations when they rely on the same comprehension procedure? There is support for this side of the argument, as evidenced by my discussion of the plausibility of different semantic loci and the distinction between lexical and pragmatic interpretations in the previous chapter.

A more plausible interpretation of the interpretive tendencies of pre-nominal possessives may be to separate the notion of default interpretations more generally from their theoretical status as GCIs, a suggestion made by Geurts (1998). In his discussion of Neo-Gricean theories, which treat GCIs as largely context-independent, Geurts is equally sceptical of the generalised nature of these inferences. While he does accept that pre-nominal possessives of the kind Levin-

son subsumes under his I-heuristic are underspecified and need to be enriched contextually, he fails to see “where the GCI come[s] in” (ibid.: 16). This caveat is similar to what Levinson (2000: 118) suggests himself when he concedes that I-implicatures may be less systematic than Q-implicatures:

“In what sense are these I-inferences generalized? Most of these inferences interact with shared background assumptions, which might in principle vary, and thus the inferences might have none of the cross-context, even cross-linguistic, invariance that are the hallmarks of GCIs. But at a sufficient level of abstraction, it is quite clear that the kinds of inferences here collected [...] do hold as preferred interpretations across contexts, and indeed across languages.”

Geurts argues that abstracting away from contexts means abstracting away from these inferences, too. So, while *John’s book* may denote an authored book in context A, and a book being read in context B, it may express something entirely vague in the abstract, namely that there is some unspecified relation between two entities. This would, of course, bring us back to the level of encoded content and so have little to do with what the theory is concerned with. Failing that, we may find at such a level of abstraction that there holds in fact a completely different relation between John and the book, such as ownership, which Geurts takes to be a more suitable candidate for a default interpretation of the pre-nominal possessive construction, but which would also take us away from what is supposedly *generalised* in its nature.

Geurts concludes that Levinson’s account blurs the line between default inferences *per se* and the notion of GCIs, which to him are two distinct matters: all GCIs are meant to be default inferences, but crucially not all default inferences are simultaneously GCIs (Geurts, 1998: 16). To give a non-possessive example, it may be perfectly acceptable to claim that the word *secretary* is usually defaulted to ‘female secretary’, but this does not mean that the word itself implies this, which is precisely what Levinson would claim given the localised character of GCIs. In the same way, many pre-nominal possessive NPs may be – and in the empirical study indeed were – defaulted to (a) certain interpretation(s), but this does not necessarily warrant their status as GCIs.

Carston’s and Geurts’ claims are similar as far as both argue against treating readily available interpretations that may arise when considering pre-nominal possessives out of context as an instance of GCIs. The fact that they behave more like PCIs (given their context-dependence) clearly demonstrates this issue. Where Carston and Geurts differ is in the way they regard the status of default interpretations in general. Thus, Carston seems to believe that the existence of multiple defaults is problematic for a default account, while Geurts’ problem is more with the conflation of defaults and their theoretical status as GCIs.

I am sympathetic to Geurts’ view inasmuch as a differentiation between default interpretations *per se* and their treatment as GCIs is more sensible than conflating them. In other

words, regarding defaults as interpretations in their own right without subsuming them under a term whose definition is neither flexible enough nor matches up to the attested evidence, which reflects actual context-dependence of supposedly context-independent aspects of utterance interpretation, looks more promising. I will develop this argument further over the course of this chapter.

4.3.3.2 Multiple defaults

In this section, I examine the related idea of pre-nominal possessives as giving rise to multiple defaults (e.g. *John's book* to denote the book John read, wrote, borrowed, etc.). The existence of multiple PDIs was one of the most interesting results falling out from the empirical study, as e.g. in possessive NPs such as *John's poem* ('the poem John wrote/read/recited'), *John's murder* ('the murder John underwent/committed/investigated'), *John's team* ('the team John plays for/coaches/supports'), and indeed almost all others. What is more, some of these appeared to be less uniform than others and so perhaps warrant the status of 'non-default', or what I have been referring to as *pragmatic*, interpretations.

With regard to the significance of multiple PDIs for a default account, I would like to come back to Carston's argument that the existence of more than one default interpretation undermines the plausibility of Levinson's construal of pre-nominal possessives as an instance of default interpretations. While Carston does not qualify this further, the same point is addressed by Bezuidenhout & Morris (2004: 10), who suggest that,

"[...] if we allow multiple GCIs for a given sentence-type, and allow that they are all inferred whenever a sentence of that type is used, this will defeat the whole purpose of having a default in the first place. For the hearer will now be forced to decide between the multiple interpretations that have been inferred, since in many cases these interpretations will be incompatible with one another (E.g., John's book can't be both bought and borrowed). But, as already noted, the point of having a default is precisely to avoid the need for making choices unless forced to do so by unusual circumstances."

They go on to say that, even if Levinson conceded to a process whereby only one of several potential alternatives was defaulted to on any given occasion based on the individual utterance context, the original purpose of an explanation along the lines of a default mechanism would be defeated. Again, we have to be careful with the wording, since Bezuidenhout & Morris appear to use the terms *default* and *GCI* without any difference in meaning. Their claim is thus effectively the same as Carston's, namely that the existence of multiple defaults undermines the stability and plausibility of a default account which defines them in terms of context-independent, streamlined inferences that speed up the comprehension process. So construed, having to choose among various plausible candidates from a list of default interpretations once

the phrase is encountered would not really speed up the process – on the contrary, it would make it more laborious.

Alternatively, even if we were to settle on one single default interpretation of a given pre-nominal possessive phrase, which, according to Bezuidenhout & Morris, would be the only way to salvage Levinson’s default account, we would be faced with a related problem. This concerns the fact that this interpretation would have to be overridden first before it could give rise to another. For example, if we took the default meaning of *John’s book* to be one of ownership, a system that allowed for multiple defaults would presumably predict some kind of ranking among the alternatives, where the most prominent one would need to be overridden/suppressed for the sake of another, perhaps less salient one if the context dictated it. This, however, would forfeit processing speed and efficiency, ironically some of the central tenets of Levinson’s default account. In other words, as efficient as a default heuristic should make the comprehension process in the case of less ambiguous possessive phrases, it might also hinder it – to the extent that a default interpretation process “could be inefficient from a processing perspective” (ibid.: 10).

It is clear from this discussion that the existence of multiple defaults poses a second potential caveat to Levinson’s GCI account. On the one hand, acknowledging their existence (which Levinson does) defeats the whole idea of postulating a default mechanism in the first place. This is precisely what Carston had in mind when suggesting that, when faced with more than one plausible interpretation, we can no longer speak of defaults (= GCIs). On the other hand, any attempt to rescue the proposal runs into more problems, as for instance the issue of how to establish one single default sense out of a number of competing candidates, and the ensuing fact that cancelling this default sense after it has been computed in order to make room for another interpretation would render the process too laborious.

To sum up the discussion to this point, Levinson’s proposal runs into several problems on similar grounds as Vikner & Jensen’s. Firstly, the alleged context-independence that is the hallmark of GCIs is not granted in the case of PDIs, so that some reliance on context is necessary for reference assignment to proceed. Secondly, the fact that most possessive NPs give rise to multiple defaults, and the resulting issue of which default is inferred when the phrase is encountered, is not accounted for. In the following section, I will discuss a third problem, which concerns the *locus* of the possessive relation.

4.3.3.3 The *locus* of the possessive relation

Levinson’s default inferences are supposed to be local, arising as soon as the relevant word or phrase is encountered. I have just discussed the problem of discerning which of a number of potential default interpretations would arise given this locality. A related point worth discussing, which is not limited to ambiguous pre-nominal possessives, concerns the source of the

possessive relation, an issue I discussed in the previous two chapters under the umbrella of what possessive relations are available in any given context.

Thus, given that we are dealing with a number of construction parts (the possessor noun, the possessive marker and the possessum noun), a question that arises is precisely which of these gives rise to a/the default interpretation as and when the NP is encountered. As Jaszczolt (2008: 18-19; my emphasis) notes,

“[...] even if [pre-nominal possessives] are to be understood as triggering presumed meanings, it is not clear exactly which unit triggers this enrichment: is it the NP, or the entire sentence, or the genitive marking on the noun itself. Compare [(55)] and [(56)]:

(55) **Chomsky’s book** is about grammar.

(56) **John’s book** won the Booker Prize.

Arguably, assuming the standard common ground that the interlocutors are likely to adopt here, [(55)] defaults to the one he wrote, and, arguably, it does so as soon as the word *Chomsky’s* is processed. In [(56)], ‘John’s book’ is likely to default to ‘the one he wrote’ when the entire VP has been processed. It seems that we cannot give a comprehensive account of the GCIs pertaining to possessive constructions unless we resort to ‘increments’ in processing that are of a variable length, depending on a particular circumstance.”

Levinson’s rigid definition of GCIs as localised, word/phrase-bound inferences evidently runs into more problems here. As Jaszczolt rightly observes, it is entirely unclear where in the possessive NP the default interpretation is supposed to arise. As I laid out in section 2.1.1, there have been various suggestions in the literature, ranging from proposals arguing in terms of relational vs. non-relational categories which give rise to the possessive relation (e.g. Barker, 1995), as well as more lexicon-based accounts which take the templatic lexical entry of a given possessum noun to contain all the information needed to generate the correct interpretation (e.g. Pustejovsky, 1995; Vikner & Jensen, 2002). That the answer to this question is going to be variable depending on the individual utterance token can already be gleaned from the two examples above. Arguably, this would be but a trivial theoretical detail if it was not for the fact that it completely ignored a distinction which is vital to the argument.

This distinction pertains to Levinson’s commitment to the ‘automatised’, inference-free nature of GCIs which arise from *utterance-type meaning*, i.e. the middle level he proposes to capture interpretations that arise as a result of pairing certain linguistic items (words or phrases) with certain expectations of how language tends to be used. Given Jaszczolt’s examples, the problem Levinson’s account faces is as follows: if *John’s book* in (56) is only likely to default to ‘the book he wrote’ after the VP has been processed, does this not speak more in favour of an *utterance-token* based account than one which takes utterance types to be the primary carrier

of default meanings (see also Jaszczolt, 2008: 19)? In other words, if we need to process other parts of the sentence containing the possessive NP in order to derive a ‘default’ interpretation, we are a) moving away from the locality requirement of default interpretations, b) appealing to context, and c) entering the sphere of utterance-specific meaning.

In sum, Levinson’s account of presumptive meanings is equally as problematic as Vikner & Jensen’s (2002) inasmuch as it endorses a lexicalist stance according to which default interpretations are attached to word *types*. In the previous three sections, I problematised the tension between two commitments: the localised character of GCIs on the one hand, and the fact that they require contextual support on the other, i.e. for reasons of disambiguating between multiple possible relations or because the phrase itself cannot be interpreted on the basis of utterance-type meaning alone. Ultimately, while Levinson correctly captures the strong tendency for many pre-nominal possessives to yield PDIs, the technical details of his account are questionable. Arguably, possessive interpretations are *not* categorically type-based but rely to a much greater extent on pragmatic reasoning and token-specific information surrounding the construction parts which make up a given possessive NP. Therefore, Levinson’s notion of what default interpretations amount to is not adequate for a description of PDIs which hopes to capture their interpretive tendencies in an empirically realistic way.

Following on from this, I will now turn to accounts which reject either a type-based notion of default interpretations in favour of a token-based one, or do not attribute any significance to the concept of default inferences in the first place.

4.3.4 Recanati’s primary vs. secondary processes

Recanati’s (2002a, 2004) account of utterance comprehension predicts the ‘fast and frugal’ derivation of default interpretations on the basis of associative, non-inferential processing. Recanati distinguishes between so-called *primary* and *secondary pragmatic processes*. Primary pragmatic processes, which may result in default interpretations, are fully associative and responsible for pragmatic enrichment at the explicit level (‘what is said’). By contrast, secondary processes are fully inferential, resulting in the derivation of implicit meaning (‘what is implicated’). Each type of process covers different kinds of phenomena.

Among his primary pragmatic processes, Recanati distinguishes cases of *saturation*, *free enrichment* (modulation) and *semantic transfer*. Saturation is a linguistically mandated process in the sense that the linguistic form of a given word or phrase makes its pragmatic enrichment obligatory. To use Recanati’s (2004: 17) own example, in order to be able to assign propositional or truth-conditional content to the sentence:

(57) She is smaller than John’s sister.

the hearer must assign reference to the pronoun *she* and determine the contextually relevant

relation between John and the sister. I will come back to the issue of whether the possessive relation is a *necessary* ingredient in possessive reference assignment in Chapters 5 and 7, but for now take this stance for granted.

Free enrichment is an optional process not mandated by the linguistic material itself, but one which “takes place for purely pragmatic reasons — in order to make sense of what the speaker is saying” (Recanati, 2010: 5). For example, utterances of the kind:

- (58) John has a brain. [a functioning brain]
- (59) There is nothing on telly tonight. [nothing worth watching]

need to be modulated in context (by adding the conceptual material in brackets) in order to get at the speaker-intended proposition. In Chapter 7, the process of free enrichment will be shown to play an important role in the enrichment of the conceptual content encoded by the possessor and the possessum noun at the compositional stage of possessive interpretation.

Finally, semantic transfer concerns the metonymic use of words or phrases. The classic example is a restaurant waiter’s utterance of *The ham sandwich wants to pay*, where *the ham sandwich* refers not literally to the ham sandwich, but to the person who ordered it. Here, the literal content is supposed to be transferred onto a new concept to yield a truth-evaluable proposition.

Recanati’s proposal is committed to the idea that primary and secondary pragmatic processes involve distinct cognitive mechanisms. The former are purely associative, i.e. not inferential. Thus, a hearer who derives the explicit meaning of an utterance does so subconsciously and pre-propositionally (locally). This associative mechanism is facilitated by the activation of schemata in the hearer’s conceptual network. For instance, the disambiguation of the lexeme BANK in ‘I am going to go to the bank to get some cash out’ would proceed as a result of the high activation of a ‘money’ schema. Secondary pragmatic processes, on the other hand, “are properly inferential in the Gricean sense of the term: they are reflective and ‘post-propositional’” (Falkum, 2011a: 224). Furthermore, they are said to be available to conscious reflection and so meet the *availability condition* (Recanati, 2004: 44), which states that hearers must be able to reconstruct how they inferred the implicated material from what was said.

The associative and unconscious nature of these processes is strongly reminiscent of Levinson’s presumptive meanings, which are similarly automatic, subconscious and pre-propositional. While Recanati does not make explicit use of the term *default*, it is clear that the enrichment which he suggests takes place in the case of primary pragmatic processes does so automatically. Additionally, as Jaszczolt (2012: 7) observes, “Recanati’s defaults are processing defaults, they are not meanings that are presumed by the pragmaticist to ensue for a particular expression.” By this she means the kind of utterance-type meaning that Levinson assumes throughout his account, i.e. fixed interpretations that are attached to word and phrase types rather than tokens.

Recanati's conception of defaults, on the contrary, is then *token-based*.

In Recanati's account, pre-nominal possessives constitute an instance of saturation and so of a primary pragmatic process. As an example, Recanati (2004: 56) discusses the phrase *John's car*, which (semantically) yields an underspecified logical form such as 'the car that bears relation *R* to John'. This *R*, being a free variable, is context-dependent and needs to be filled with the help of the context, i.e. by appeal to what the speaker who utters it means. In other words, "[t]here is no other way to determine contextually a value for the genitive, *than by appeal to a speaker's meaning*" (ibid: 63; my emphasis). This appeal is key, for it suggests that pre-nominal possessives do not in and of themselves 'mean' anything, i.e. in the Levinsonian sense of utterance-type meaning, or in the Vikner & Jensonian sense of word meaning. Instead, they require appeal to speaker meaning on every single occasion, an issue I will return to in Chapter 7.

The default character of certain pairings of possessive NPs with certain possessive relations, e.g. *John's mother* to denote kinship rather than, say, 'the mother John has painted', would thus crucially not be a matter of type- or word-based meaning. Thus, even though Recanati does not regard their interpretation as fully inferential (cf. section 4.3.5), he is committed to the idea that possessive interpretations can only be described on the level of utterance *tokens*, and that even alleged lexical relations depend on the accessibility of contextual assumptions and speaker meaning.

Regardless of processing implications, Recanati's account offers a more flexible notion of defaults than previous type-based accounts. According to him, automatic pragmatic enrichment is a product of the pragmatic system rather than a matter of mere semantic decoding, and takes place given a certain context. Such a token-based conception of defaults is significantly more apt to account for PDIs because it more accurately captures the interpretive tendencies we saw in the empirical study. Furthermore, it does not suffer from the many theoretical issues associated with type-based accounts.

An even stronger version of the context-sensitive and token-based character of default interpretations is offered by Relevance theory, to which I now turn.

4.3.5 Relevance theory

4.3.5.1 Main principles

Sperber & Wilson's (1986/1995) Relevance theory represents a framework for the analysis of utterance interpretation which is wider in its explanatory scope than most other pragmatic theories in that it is concerned with *cognitive* plausibility. RT represents both a development and critique of Grice's inferential model, viewing the processes whereby communication proceeds as quintessentially inferential as opposed to merely a matter of encoding and decoding thoughts.

Aside from inferential, communication is also taken to be *ostensive*, which means that in producing a stimulus, a (model) speaker will act as it were deliberately and thoughtfully: that is, he will act in a way which aids the (model) addressee in the recognition of his intentions and thereby to come to the right conclusions with respect to his communicated meaning. Granting this, communicators are thought to exhibit two kinds of intention:

Ostensive-inferential communication

a. The informative intention:

The intention to inform an audience of something.

b. The communicative intention:

The intention to inform the audience of one's informative intention.

The informative intention captures the fact that, fundamentally, speakers communicate in order to convey worthwhile information to an addressee. The communicative intention captures the fact that speakers do so in a way which helps the addressee to understand the proposition that they wish to communicate. Unger (2001) gives the following example of a non-linguistic act of ostensive-inferential communication:

- (60) I was at a conference in Spain and needed to buy a toothbrush. I didn't know Spanish, and the chemist indicated that he didn't speak English. So I mimicked the act of brushing my teeth. The chemist understood perfectly and brought a toothbrush, and so the purchase went smoothly.

Despite the fact that the communicators do not understand each other's language, the ostensive stimulus of mimicking the act of toothbrushing used by the speaker leads the addressee onto the right inferential path, given a number of contextual assumptions which support this conclusion. In other words, given assumptions a-d below and the principles of inferential communication, Unger ventures, the chemist should arrive at conclusion e:

- a. Someone who walks into a chemist shop wants to buy something which he believes is sold there.
- b. The customer is acting in a way similar to the act of brushing one's teeth.
- c. For brushing one's teeth one needs a toothbrush.
- d. Toothbrushes are sold at the chemist's.
- e. **The customer wants to buy a toothbrush.**

Needless to say, the same principles hold for linguistic acts. To understand the comprehension process better, let us consider the main principles of the relevance-theoretic account. RT takes its name from the basic assumption that interpretation is constrained by considerations of *relevance*, the trade-off between cognitive effects yielded and amount of processing effort expended in the processing of a linguistic stimulus.⁶

More generally, relevance is defined as “a property of inputs to cognitive processes” (Wilson & Carston, 2007: 23), with utterance interpretation constituting but one of the many domains of cognition. Attending to relevant stimuli over non-relevant ones is not thought to be a matter of choice or of following some form of the co-operative principle (Grice, 1975/1989), but a result of “the way our cognitive systems have evolved” (Wilson & Sperber, 2004: 254). Given the vast amount of information which surrounds us and is in need of processing and attending to, the main question addressed by RT is how interlocutors process inputs in a way which will result in effective and smooth communication (Falkum, 2011a: 91-92). The tendency to be oriented towards considerations of relevance is captured by the first, or *Cognitive Principle of Relevance*:

Cognitive Principle of Relevance

Human cognition tends to be geared to the maximisation of relevance.

In order for a stimulus to be perceived as ‘worthwhile’ or relevant, it ought to presume its own relevance. If this was not the case, our minds would not be as selective as they are in attending to stimuli, and communication would make for an arduous process. However, not every stimulus will necessarily be *maximally* relevant. A speaker may not find the right words to convey a certain meaning, or even lack the appropriate level of verbal skill in order to do so. Relevance thus comes in degrees (Sperber & Wilson, 1986/1995: 265-266):

Relevance of an input to an individual

- a. Other things being equal, the greater the positive cognitive effects achieved by processing an input, the greater the relevance of the input to the individual at that time.
- b. Other things being equal, the greater the processing effort expended, the lower the relevance of the input to the individual at that time.

Effectively, a higher degree of relevance results in more cognitive effects, whereas a lower degree of relevance results in a higher processing load on the part of the hearer. Thus, rather

⁶The notion of cognitive effects in Relevance theory is a complex one and one which has been revised on numerous occasions. The general consensus is that positive cognitive effects, such as true conclusions or any other “worthwhile difference to the individual’s representation of the world” (Wilson & Sperber, 2004: 251), are to be preferred over negative ones, e.g. false conclusions, which “are not worth having” (ibid.). Other kinds of cognitive effect subsume, for instance, contextual implications determined on the basis of the combination of the context and the input of a certain stimulus, the strengthening of existing assumptions, as well as their revision or abandonment.

than being maximally relevant, every utterance is supposed to come with its own presumption of *optimal* relevance, the exact nature of which is dependent on the speaker's abilities and preferences. This tendency is described by the second, or *Communicative Principle of Relevance*:

Communicative Principle of Relevance

Every ostensive stimulus conveys a presumption of its own optimal relevance.

Optimal relevance

An ostensive stimulus is optimally relevant to an audience iff:

- a. It is relevant enough to be worth the audience's processing effort.
- b. It is the most relevant one compatible with communicator's abilities and preferences.

From the addressee's point of view, any utterance produced by a speaker with the intent to communicate information will come with its own presumption of optimal relevance. This is an important point to bear in mind for the analysis of pre-nominal possessives because their use in a particular communicative situation necessarily represents a *choice* option from among a number of candidates. For example, a speaker who wishes to express a relationship between two entities might do so by choosing from among a list of more or less 'expressive' options, as e.g. *the tail that is attached to the dog* vs. *the dog's tail*.

In this respect, the use of a pre-nominal possessive NP constitutes the least explicit stylistic option. As Hedley (2005) points out, choosing a more implicit option, as we frequently do when communicating, fulfils a fundamentally communicative function. He illustrates this by means of pronominal expressions such as *she* or *he*, which, compared to more descriptively exhaustive descriptions (e.g. *the guy with the blue hair*, *the man who is standing at the corner*), also represent more implicit stylistic choices. According to Hedley (ibid.: 7), "they are a linguistic device that can be used by a speaker in order to aid the process of reference resolution for his hearer, while not expending too much time and energy in producing fully specific (and probably repetitive) descriptive noun phrases." I will come back to how such expressions have been analysed in RT in a moment.

For now, whilst I will not be concerned with language production, this communicative nature of certain expressions is worth emphasising. Thus, a speaker's use of a pre-nominal possessive phrase, provided that he can be trusted to follow the rules of rational communication, will already be such that it puts the addressee in an optimal position to infer the relevant meaning. Generally, a speaker's choice of linguistic material is expected to be such that it will create the least amount of cognitive effort for the addressee to expend.

Given this premise, the addressee is then believed to follow the relevance-theoretic comprehension procedure:

Relevance-theoretic comprehension procedure

- a. Follow a path of least effort in deriving cognitive effects. Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.
- b. Stop when your expectations of relevance are satisfied.

Like most pragmatic theories, RT recognises the need to distinguish between two different levels of meaning, termed *explicatures* and *implicatures*. However, the fact that both aspects of pragmatic meaning are derived by means of the above procedure (as stated in the first instruction) avoids the need to distinguish between different interpretational mechanisms of the associative vs. the inferential kind, as in Recanati's account, and generalised and particularised conversational implicatures, as in Grice's account. According to RT, both explicatures and implicatures are derived at in parallel through a process of *mutual parallel adjustment*. They are also both a kind of non-demonstrative inference which takes place consciously and globally and fully in line with the context of the utterance.

Most importantly, both the explicit and implicit content of an utterance are presumed to be arrived at by following this procedure. The instruction in b. suggests that addressees will not necessarily arrive at an exact replication of the speaker's intended meaning (explicit or implicit). This is to be expected given that communication is inferential and not merely a matter of decoding speaker's thoughts. Furthermore, pragmatic meaning is usually defeasible, which means that the final representation an addressee arrives at may be the most relevant for the context, but not necessarily the correct one. Before I turn to RT's conception of default interpretations, it will be necessary to briefly introduce how it construes the notion of context, which I have been somewhat taking for granted in previous sections.

4.3.5.2 RT and context

Sperber & Wilson (1986/1995: 15-16) endorse a view of context whereby it is variable and constructed as and when an utterance is processed:

“The set of premises used in interpreting an utterance (apart from the premise that the utterance in question has been produced) constitutes what is generally known as the context. A context is a psychological construct, a subset of the hearer's assumptions about the world. It is these assumptions, of course, rather than the actual state of the world, that affect the interpretation of an utterance. A context in this sense is not limited to information about the immediate physical environment or the immediately preceding utterances: expectations about the future, scientific hypotheses or religious beliefs, anecdotal memories, general cultural assumptions, beliefs about the mental state of the speaker, may all play a role in context interpretation.”

Sperber & Wilson regard context as a “psychological construct”, subsuming not merely the imminent situational and/or linguistic context but also conceptual knowledge stored in long-term memory, common knowledge, etc. What is more, they suggest that context should be regarded as *emergent*, i.e. as being constructed ‘on the go’ whenever an utterance is processed. According to Jodłowiec (2010: 141), “the context accessed in the interpretation process is not given but chosen by interpreters unwittingly trying to maximise the relevance of the input they are processing.” This view of context entails that contextual assumptions brought to bear during the comprehension process can be adjusted. To illustrate this, she (ibid: 142-143) cites the following example from Dan Brown’s *The Da Vinci Code*:

- (61) As the Citroen accelerated southward across the city, the illuminated profile of the Eiffel Tower appeared, shooting skyward in the distance to the right. Seeing it, Langdon thought of Vittoria, recalling their playful promise a year ago that every six months they would meet again at a different romantic spot on the globe. The Eiffel Tower, Langdon suspected, would have made their list. Sadly, he last kissed Vittoria in a noisy airport in Rome more than a year ago.
- “Did you mount her?” the agent asked, looking over. Langdon glanced up, certain he had misunderstood. “I beg your pardon?” “She is lovely, no?” The agent motioned through the windshield toward the Eiffel Tower. “Have you mounted her?” Langdon rolled his eyes. “No, I haven’t climbed the tower.”

Given Langdon’s state of mind (reminiscing about Vittoria), his initial reaction to the agent’s question is to think that he is enquiring about Vittoria. It is only when he realises that this cannot be what the agent intended that he accesses a different set of assumptions (the immediate physical environment = the physical presence of the Eiffel Tower) and recovers the correct referent of the third person feminine pronoun.

Context, then, is dynamic and variable, constantly evolving and “open to choices and revisions throughout the comprehension process” (Sperber & Wilson, 1986/1995: 137) as opposed to a tangible entity which can be exhaustively defined by a set of characteristics (see also Mason, 2006). Viewed in this light, any conception of context in terms of overt and explicit paraphrases of the possessive relation as adopted by Vikner & Jensen is far too restrictive to do justice to the variety of contextual influences that come into play in the interpretation of utterances. This goes for decontextualised utterances as much as it goes for ones which form part of concrete utterance situations. According to Sperber & Wilson (1986/1995: 185, emphasis in original),

“[w]hen an artificial example is produced, say as part of a theoretical discussion or in an experimental situation, it is processed and understood in isolation from any natural context. This is not to say that it is processed and understood in isolation from *any* context. In the first place, it gives access to encyclopaedic information about the objects and the events referred to, and hence to a range of potential contexts of the usual type [...]. In the absence of real-life contextual constraints, or constraints specially set up by the experimenter, hearers automatically construct a

context which yields the least effort-consuming conceivable interpretation. It would thus be easy, on the basis of artificial examples, to conclude that the identification of propositional form is entirely determined by a principle of least effort.”

Therefore, whenever the addressee is faced with the interpretation of a possessive NP in the absence of any concrete and contextually salient information, she may plausibly fall back on a default interpretation which will be contingent upon the kind of encyclopaedic information and common knowledge associated with the possessum noun at hand. That the existence of such interpretations at the level of possible interpretations is not only intuitively plausible but constitutes an empirical fact was certainly verified by the production study in the previous chapter. In Chapter 7, I will suggest that default interpretations have their place also on the level of *actual* possessive interpretations.

4.3.5.3 RT and possessive interpretations

RT’s conception of context suggests that pragmatic enrichment is required at every step of the comprehension procedure. Like Recanati, RT analyses pre-nominal possessives as instances of explicit meaning, also called *explicatures*. Being linguistically underdetermined, they have to undergo a process of saturation (Recanati, 2002, 2004) in order to be truth-evaluable and comprehensible. Under such a conception, the filling in of the missing relation is an obligatory step on the part of the hearer – without it, no proposition would be expressed.

Appealing to the relevance-theoretic notion of *procedural meaning* (Blakemore, 1987, 2002; Wilson & Sperber, 1993), other scholars in the field (e.g. Taylor, 1993; Aitken, 2009) have elaborated on the process through which this missing conceptual component could be supplied. For example, Aitken (2009) suggests that the possessive marker encodes an instruction which tells the hearer to integrate the conceptual information associated with the possessum noun (e.g. *car*) into the world of the possessor noun (e.g. *John*). Thus, the inferential comprehension path followed by a hearer who is faced with the interpretation of a possessive NP is one which maps out how to find the most relevant relation in a certain context. Procedural meaning is then *instructional* in nature. As Wilson & Wharton (2005: 16) put it, procedural meaning tends “to facilitate the identification of the speaker’s meaning by narrowing the search space for inferential comprehension, increasing the salience of some hypotheses and eliminating others, thus reducing the overall effort required.”

In possessive interpretation, an utterance of *John’s car* would activate (addressee-specific) assumptions about an individual called John and a non-specific car. The input of the possessive marker would then be to tell the hearer to integrate both sets of assumptions (e.g. John is a human being, John owns things, cars are typically owned and driven by human beings, ...) in order to arrive at a more specific relationship between the two entities (e.g. the car that John owns). While schematic for now, Chapter 7 will contain an elaborate account of how

the process of possessive interpretation may be modeled by making recourse to the relevance-theoretic interpretation apparatus, including the procedural mechanisms of saturation and free enrichment.

Crucially, the recovery of the implicit relation which holds between two nouns in a pre-nominal possessive phrase is a matter of speaker meaning and thus fully context-dependent. Like Recanati, RT therefore endorses a *token-based* conception of possessive interpretations. I will now briefly elaborate on the significance of this view before delineating a tentative working definition of PDIs and subsequently concluding this chapter.

4.3.5.4 RT and default interpretations

As previously suggested, default interpretations, however construed, do not have a special status within RT. This is so because all instances of utterance interpretation are uniformly viewed as inferential, non-associative nonce inferences, derived from scratch as and when an utterance is encountered, and guided by considerations of relevance. Consequently, there is no place for type-based meaning or lexically encoded meaning which arises locally as attached to certain linguistic expressions. As I just stated, RT's view of linguistic meaning takes it to be fully token-based: possessive interpretations are determined by appeal to what is the most *relevant* interpretation in the context for a given interlocutor, yielding the most cognitive effects for the smallest amount of processing effort. Nevertheless, the 'fast and frugal' interpretation of many pre-nominal possessives can be explained by means of highly accessible encyclopaedic knowledge which is activated in the context of a given phrase.

For example, upon encountering the phrase *John's mother* in a relatively unmarked context, a hearer would typically enrich it to refer to John's own mother given that the kinship relation between a mother and her child should be highly salient at any given point in time. However, it is also conceivable that a hearer who has recently been exposed in some way to, say, a care situation involving single mothers who had been abandoned by their partners and as a result were struggling to get by, might enrich the phrase differently, i.e. to denote a 'pragmatic' possessive relation such as 'the mother John is looking after in his capacity as a social worker'.⁷ Of course, this does not mean that the kinship relation is not encoded in the lexical semantics of the noun *mother*: this is undeniably true. This relational sense may, however, not be the most accessible one at a given point and, therefore, give way to what in lexicalist accounts are considered to be 'non-default' or pragmatic relations.

In RT, both default and non-default interpretations are on a par and crucially do not rely on different interpretational mechanisms. The only difference lies in the accessibility or retrievability of contextual assumptions, which may naturally differ across interlocutors. Importantly, even isolated possessive phrases will trigger the search for relevance, which also plausibly ex-

⁷See Martínez-Manrique & Vicente (2004) for a similar accessibility-based argument.

plains the tendency to select the most likely interpretation given the evidence (or lack thereof) at hand.

I believe that a token-based conception underlying individual instances of the possessive interpretation process most adequately captures the interpretive tendencies displayed by the NPs that participants were asked to paraphrase in the empirical study. As I have argued, it does justice to the many different interpretations, as well as the fact that certain interpretations may be more salient for some participants but not for others. However, as it stands, RT lacks an adequate characterisation of default interpretations, and possessive ones in particular. Even though both the relevance-theoretic comprehension procedure and RT's conception of the context's role in utterance interpretation offer a powerful machinery to explain aspects of the interpretation process, it fails to capture the generalised nature of PDIs.

Therefore, I believe that a token-based definition of PDIs which is in line with the relevance-theoretic comprehension mechanism but still maintains some of the generality with which certain interpretations are determined, might offer an adequate middle ground between a fully type-based and a fully token-based construal of PDIs. To round off my discussion, I will now delineate such a definition before closing the present chapter.

4.4 A working definition of possessive default interpretations

Deciding which of the above accounts offers the correct ingredients for an account of PDIs will ultimately be a matter of experimental verification, an endeavour which is beyond the scope of this thesis. However, from the point of view of descriptive adequacy, we have seen a number of weaknesses in many of the available accounts. In particular, I argued that many of the alleged features of GCIs, e.g. locality and (relative) context-independence, are problematic theoretical concepts for PDIs. I concluded that pre-nominal possessives appear irreconcilable with a type-based conception of defaults in terms of *semantic* interpretations (Vikner & Jensen, 2002) or GCIs (Grice, 1975/1989; Levinson, 2000).

Against this background, I gradually moved towards a more flexible, token-based conception of PDIs. This rejects the plausibility of utterance-type meaning and construes the determination of the possessive relation in terms of a nonce inference on the part of the hearer. However, we have also seen that pre-nominal possessives and default interpretations are not completely separable. The latter clearly exist, whatever we take the term default interpretation to mean at this stage. I have tentatively suggested that a looser definition of defaults which is still in line with the general conception underlying the relevance-theoretic framework may salvage a construal of pre-nominal possessives in terms of default interpretations. Jaszczolt's (2005) work, to which I now turn, offers the correct ingredients for such a definition.

4.4.1 Jaszczolt's Default Semantics

Jaszczolt's (2005) *Default Semantics* (henceforth DS) is a theory of utterance interpretation which combines the main stance of post-Gricean pragmatics – that pragmatic aspects of meaning can impinge on truth conditions – with the insights from formal theories of discourse (e.g. Kamp & Reyle, 1993). Much like the majority of theories I discussed above, DS recognises the fact that pragmatic processes are often needed to complete a semantically underdetermined representation, but unlike Levinson (2000), Jaszczolt questions the need for an intermediate level at which presumptive meanings are derived.

Jaszczolt argues that the main contention with an utterance-type based level of meaning, aside from the issue concerning the relational locus that I discussed in section 4.3.3.3, should be the alerting fact that they arise as a result of a multitude of fundamentally different processes. These subsume, for instance, linguistic form and socio-cultural conventions (Levinson's I-heuristic), the fact that something that could have been said wasn't said (Levinson's M- and Q-heuristics), and many others. If the foundation of a separate level of the kind Levinson suggests rests on such divergent building blocks, it may be questionable whether its existence is warranted in the first place. Moreover, what this view amounts to is a rejection of the view that compositionality has to rely and be defined in terms of logical forms that are outputted by the syntax: in effect, there is no such thing as a minimal 'semantic' specification that pragmatics subsequently takes as input to form a fully-fledged, truth-evaluable proposition. Instead, rather than three or two, there exists only a single level of linguistic meaning, a merger representation to which different kinds of information contribute, called *primary meaning*.

With regard to default interpretations, one of the cornerstones of DS is the recognition of different types of defaults, namely those pertaining to culture-dependent background knowledge, so-called *social-cultural defaults*, and those pertaining to "the way humans think" (Jaszczolt, 2005: 47), so-called *cognitive defaults*. While DS contents itself with one level of meaning, the merger representation, and questions the plausibility of an intermediate level of the kind Levinson terms utterance-type meaning, it does not question the existence of defaults *per se*. Defaults are an important contributor to primary meaning and are defined as "salient interpretations that occur in a particular context of conversation" (Jaszczolt, 2012: 8). In this respect, they share much of Recanati's and RT's utterance-token based character. I will limit my discussion here to social-cultural defaults.

Social-cultural defaults are defaults which depend on knowledge specific to cultural and social conventions. Jaszczolt discusses pre-nominal possessives as a prime example:

- (62) Picasso's painting is of a crying woman.
+> the painting that Pablo Picasso painted

The authorship interpretation of *Picasso's painting* in (62) clearly proceeds based on knowl-

edge of European art. An interlocutor unfamiliar with this cultural background may default to a different interpretation, which makes the default interpretation of authorship one for the specific context rather than one which is likely to arise across contexts. A similar case can be made for cases of lexical narrowing, such as the following:

- (63) We advertised for a new nanny.
+> a female nanny

Much like with possessives, the inference from nanny to female nanny is arguably only a default for a particular context against the background of a particular culture. However, the situation is somewhat more complicated than this. Jaszczolt (2005: 55) appeals to “fuzzy intuitions” with regard to these types of defaults. The problem is that, unless we have access to the speaker’s thoughts, it is unclear whether such a default was indeed intended. For all we know, he might simply have advertised for a nanny regardless of their sex, religion, and so forth. Speaker meaning is thus not always easily recoverable or accessible.

In this regard, social-cultural defaults are not a suitable candidate for formalisation in the way DS does it for cognitive defaults (or perhaps at all). This is further strengthened by the intuition that even a uniform syntactic class such as pre-nominal possessives exhibits great variability as to the degree of explicit contextual cues in the recovery of the possessive relation. For instance, while the recovery of an authorship relation in the case of *Picasso’s painting* may be straightforward for the majority of interlocutors, the same can perhaps not be said of (64), which may rely on more explicit contextual support detailing that Peter is an author and has recently written a book:

- (64) Peter’s book is about a glass church.
+> the book written by Peter Carey

This observation nicely illustrates the diversity among pre-nominal possessives that I outlined at the beginning of this chapter, i.e. the fact that some possessives rely on more overt contextual explication than others. Jaszczolt takes this one step further, arguing that even without any overt contextual indication of the possessive relation, the inferential work to be performed on part of the hearer/reader can differ substantially depending on the degree to which cultural and social background knowledge is entrenched, as demonstrated by the Picasso example. The default interpretation process is therefore complex, relying on cultural and background knowledge, encyclopaedic information stored in long term memory, and, without a doubt, countless other factors. What is important, however, is that it cannot proceed on the basis of lexical knowledge alone, a point which I hope to have demonstrated over the course of the present chapter.

4.4.2 PDIs (re)defined

Having spent considerable time discussing and evaluating available definitions of defaults, we are now in a good position to come up with a working definition for PDIs which adequately reflects their context-dependent, token-specific and fully pragmatic character:

Possessive default interpretations:

Salient (prominent, immediate) meanings which arise in a given context for a particular interlocutor as a result of various sources, such as the extra-linguistic context, his/her socio-cultural background, as well as usage frequencies of particular linguistic items with particular meanings.

In section 4.3.1, I suggested that a pragmatic notion of PDIs might be able to explain the empirical results from the production study in a more principled way than existing definitions according to which a type-based default interpretation first needs to be overridden to make way for a non-default one. How, then, might the present definition be able to explain both the consistency and frequent non-uniformity across participants' responses?

For a possessive NP such as *John's jumper* as in (31), consistency might be explained by recourse to immediately accessible encyclopaedic and shared socio-cultural backgrounds as part of which people more frequently tend to wear jumpers as opposed to, say, design or dream about them. Deviation, on the other hand, could boil down to recent exposure to a different context, where jumpers featured more saliently in a production setting (e.g. an interlocutor who works in the fashion industry and is frequently exposed to newly designed clothing), which in turn activates such knowledge upon encountering the possessive NP in isolation or a low-information context. Under such a conception, default interpretations are not a special subset of interpretations which arise 'under normal circumstances' as opposed to 'particularised' ones. They are simply viewed as interpretations which seem the most plausible at a given time and against a (contextually) given background. In the case of null contexts that do *not* strictly speaking establish such a background, salient assumptions in the shape of encyclopaedic and world knowledge may be activated on the basis of the NP-specific possessor and possessum nouns.

From a functional point of view, PDIs are thus important in that they may help the addressee to determine *compositional* knowledge required to make sense of the underspecified possessive NP in the absence of a concrete context which biases a particular interpretation. Null contexts and more fully-fledged linguistic contexts are then no different from a theoretical standpoint. Crucially, *both* give rise to a number of accessible assumptions which have an important role to play in the possessive interpretation process. The main difference lies in the (trivial) fact that the former may prime a larger number of more unsystematic interpretations that differ across participants, an observation that was also borne out by the empirical data. Null contexts then do

not contain the necessary *referential* knowledge necessary for the unambiguous identification of the possessive relation. How these two levels interact is described in detail in Chapter 7, where I provide a comprehensive account of possessive interpretation.

4.5 Concluding remarks

At the beginning of this chapter, I observed that we frequently default effortlessly from a semantically indeterminate possessive NP of the form *N1's N2* to what comes close to a quasi-referential representation of the entity it denotes. For example, upon reading a sentence containing the phrase *John's jumper*, we tend to default to the enriched form *the jumper John is wearing*. Notably, such 'fast and frugal' interpretations are not restricted to just a handful of possessive NPs. On the contrary, the empirical results I presented in Chapter 3 reflect what I considered default tendencies for virtually all other possessive NPs, with most speakers converging on a small number of dominant interpretations. Somewhat unexpectedly, the results also showed a number of deviant interpretations that are not immediately explainable by Vikner & Jensen's account, which predicts greater consistency across interlocutors based on rich lexical entries which generate default interpretations.

Addressing various fundamental questions concerning the nature of utterance interpretation, this chapter has been concerned with the question of how possessive relations are made available by default. To approach this question, I considered the theoretical status of PDIs as either context-*dependent* or context-*independent* inferences, evaluating numerous theoretical construals of default interpretations more generally with respect to their suitability for a theoretical description of PDIs. One of the major outcomes of this discussion was that a uniform description of PDIs under the umbrella of lexical interpretations or GCIs is problematic because it does not fully capture their frequently deviant character. I thus argued that a pragmatic construal of PDIs which is based on the assumption that no instance of utterance interpretation takes place in a vacuum, but is heavily influenced by contextual effects (including, but certainly not limited to, the key points mentioned in the definition above), is more capable of explaining both consistency across default interpretations as well as deviation from the 'norm'. Importantly, it is more theoretically parsimonious than an explanation which, beyond the initial stage of decoding the underspecified relation that holds between N1 and N2, still has to appeal to two different interpretive systems, the semantic and the pragmatic one.

In my theoretical discussion, I sided with insights from the relevance-theoretic framework (Sperber & Wilson, 1986/1995) to explain the interpretive behaviour displayed by study participants. While RT rejects the idea of a default inferencing mechanism which is somehow special compared to the inferential path of least effort normally taken in utterance interpretation, it is not incompatible with a notion of default interpretations in terms of token-based, fully contex-

tualised meaning. Combining the two, I delineated a working definition of PDIs inspired by Jaszczolt (2005), which captures both their consistency across impoverished contexts as well as their sometimes unsystematic nature. Needless to say, it would make for an interesting task to explore how ever-changing contextual assumptions can be reduced to something more systematic than what I have proposed here. The current chapter has demonstrated, however, that a more flexible, *token-based* definition of PDIs which discerns these on the basis of individual utterances and speakers fares better when it comes to explaining both the intuitive and the empirical evidence.

The broader significance of these findings is first and foremost that a mere decoding of the semantic content of the possessum noun and the possessive marker, however important both may be in possessive interpretation, is nowhere near exhaustive of the overall interpretation process. Instead, an appeal to pragmatic reasoning which makes available salient assumptions about the denotation of a particular possessum noun in the first place, is crucial to attain a more complete picture. The first premise of the argument from interpretation, according to which the availability of default interpretations for individual possessive NPs is indicative of their semantic nature, should subsequently be regarded as questionable.

Coming back to Peters & Westerståhl's question of *what* possessive relations are made available, the previous and the present chapter have established that these frequently exceed what may be encoded by either the possessum noun or the possessive marker. This is so because the precise content of any set of possible interpretations depends to a large extent on the addressee's consideration of what might be the most likely interpretation(s), which in turn is contingent on what knowledge and assumptions are activated as and when a particular possessive NP is encountered. In this respect, the nature of *how* they are determined should be regarded not as a matter of simple semantic decoding, but as a fundamentally context-dependent and pragmatic process.

So far, I have mainly been concerned with the role played by the *extra-linguistic* context in possessive interpretation. In the following chapter, I move away from salience considerations culled from this type of context to investigate possessive interpretations in more elaborate discourse contexts. In particular, I will consider their communicative function as *referring expressions* that make available a host of referential knowledge crucial to the token-based interpretation of pre-nominal possessive NPs in concrete communicative situations.

Chapter 5

A functional and discourse-analytic study of pre-nominal possessive NPs in context

5.1 Introduction

This chapter addresses the second of Peters & Westerståhl's questions, namely how one possessive relation is selected over others to render a possessive NP referentially determinate. This question takes us away from the remit of *possible* interpretations and into the realm of actual or *salient* interpretations. By 'salient relation' I will from now on be referring to the single most pertinent relation which secures the addressee's grasp of the entity denoted by the possessive NP. While a comprehensive account of salient possessive interpretations is as yet outstanding, the present chapter will establish some of its central foundations by drawing upon existing knowledge of how pre-nominal possessives enable addressees to establish mental contact with this entity (the *possessive referent*). It is this process which, as I will argue, simultaneously makes it possible for addressees to attain the kind of *referential* knowledge that is required to determine which possessive relation to select in the interpretation of any possessive NP in concrete communicative situations.

Until now, I have only been concerned with Peters & Westerståhl's first question, i.e. what possessive relations are made available. In answer to this question, I argued that the precise content of any set of candidate relations depends on addressee-dependent salience considerations culled from the extra-linguistic context. It is precisely this insight which motivates the present chapter. If my line of argument is correct, the context surrounding a pre-nominal possessive NP plays a fundamentally larger role in possessive interpretation than has previously been appreciated. While this may depend on one's theoretical standpoint when it comes to the level of possible interpretations (cf. Vikner & Jensen, 2002), it should be less (if at all) debatable on the level of salient interpretations.

This means that, if we hope to gain a more representative picture of the overall process of

possessive interpretation, a thorough investigation of the context's role is needed in order to fill the gaps left behind not only by previous research, but also by my discussion up to this point. Moving away from bare possessive NPs whose interpretation, as I have argued, relies on pragmatic reasoning triggered by the *extra-linguistic* context, this chapter will be concerned with the role played by their function as *referring expressions* in this process. Naturally, this function cannot be investigated independently of natural language contexts. The focus in this chapter will therefore be on the question of how the *linguistic* context surrounding a possessive NP guides the addressee in her search for a salient possessive relation *via* her search for a salient possessive referent.

In order to answer this question, we are faced with the task of going beyond the kind of limited contexts we saw in the previous two chapters and investigate pre-nominal possessives in more elaborate discourse contexts. Building on previous insights, the present and the next chapter seek to shed light on the various types of information contained within the linguistic context which guide the addressee in selecting a salient possessive relation. The next chapter addresses this question from an empirical point of view, while the present chapter addresses the theoretical side of the question. In particular, it discusses functional and discourse properties of the construction as a whole, i.e. how it is used to secure reference and how this referential function is maintained from a discourse-analytic point view over longer stretches of text.

The structure of the chapter is as follows. In the next section, I establish some of the background evidence that motivates my recourse to the *function* of pre-nominal possessive NPs. In section 5.3, I critically evaluate the few existing corpus-based studies of pre-nominal possessives in naturally occurring discourse contexts. Section 5.4 introduces the cognitive-functional account of pre-nominal possessives as *reference-point constructions* (Langacker, 1991, 1993, 1995), which is concerned with their function as referring expressions. In section 5.5, I examine how possessive referents become *identifiable* in context. This notion centres around the question of how interlocutors establish mental contact with it based on its location within a stretch of discourse (its *discourse status*) and the relational anchoring of a possessum entity to a salient possessor referent. On this basis, I establish two types of identifiability which conspire in interesting ways to render possessive referents accessible: *construction-external identifiability*, which constitutes a 'measure' of the possessive referent's discourse status, and *construction-internal identifiability*, which refers to the identifiability of the possessive referent based on the salient relation between a possessor and a possessum that is established via a contextualised reference-point relationship. Section 5.6 concludes.

The central outcome of my discussion will be a more fine-grained understanding of the ways in which the search for a salient possessive relation may be promoted by the ways in which a possessive referent partakes in referential chains within discourse contexts. Furthermore, it sets the scene for the empirical study in the next chapter. This provides a quantitative perspective on

the various ways in which possessive relations may be rendered salient through the linguistic context.

5.2 Pre-nominal possessives as *referring expressions* and the importance of the linguistic context

Referring expressions are noun phrases which pick out an object or an entity in the world.¹ From a functional point of view, whenever a pre-nominal possessive phrase is used in communication, it establishes reference to an entity in the (real or imagined) world. Of course, any such functional aspect cannot be investigated independently of natural discourse contexts since, as Wilson & Carston (2006: 21) note,

“[t]he presence of a discourse context affects the interpretation of an utterance in two main ways. First, it alters the accessibility of information [...], which in turn affects the accessibility of different contextual assumptions and implications. Second, it sets up certain goals or expectations in the hearer.”

In section 4.3.5.2, I argued that even the *absence* of a discourse context triggers a range of salient contextual assumptions. This is so because interlocutors can be expected to imagine a plausible context within which the interpretation of a possessive NP would be least effortful. Given the *presence* of a natural discourse context, the interpretation process should then be guided even more strongly by the search for a relevant interpretation. Notably, this should proceed in line with the information contained within this context. What is more, this search can be expected to be goal-oriented, since the addressee will typically attempt to identify, or to establish mental contact with, the possessive referent.

To repeat the example I introduced in Chapter 2, if a speaker wants to refer to a particular grandson, he is likely to first conceptualise his grandparents:

(65) **The Jones’ grandson** has been of great help to them recently.

Pre-nominal possessive NPs thus function as referring expressions. The identification of the possessive referent (*grandson*) is made possible through the prior conceptualisation of the possessor referent (*the Jones’*). While the latter is usually already activated in the discourse, the entity denoted by the possessive NP is not. Thus far, given my focus on artificial, and therefore *non-referring*, possessive NPs, the fact that they constitute deeply communicative devices which enable interlocutors to establish mental contact with a possessive referent has been largely ignored, leaving the emerging picture regrettably fragmentary.

¹Note that I will be using the term *reference* in its most basic meaning, such that it denotes “a relation that obtains between certain sorts of representational tokens (e.g., names, [linguistic expressions], mental states, pictures) and objects” (Reimer & Michaelson, 2014; my addition).

As I previously suggested, the reason why the compositional semantics of any pre-nominal possessive NP is not exhaustive of its meaning in context is the fact that possessive interpretation is only *partly* compositional. In other words, interlocutors require not only knowledge of the meanings of the construction parts, but also *referential* knowledge of the entities these pick out in natural language contexts. When it comes to interpreting an utterance containing a pre-nominal possessive NP, this means that interlocutors should rely in equal measure on both compositional and referential knowledge.

The role of compositional knowledge is to narrow down the range of possible interpretations that need to be considered by the addressee. The determination of the most salient relation may then proceed on the basis of evaluating all possible interpretations with respect to whether or not they match the information contained within the discourse context. Crucially, because pre-nominal possessives are referring expressions, picking out a particular entity (or a group of entities) on the majority of their uses, this selection process should simultaneously be guided by the search for a salient possessive referent. Which possessive relation is selected therefore has to be established on the basis of referential knowledge.

It is precisely this latter type of knowledge which will be the central topic of the present chapter. Given my previous focus on how compositional knowledge may be established in the determination of candidate interpretations, it will now be necessary to establish how much of the interpretation process is additionally guided by the search for the possessive referent. Put differently, if possessive interpretation boils down to the determination of a salient possessive relationship between two entities, to what extent might this process be guided by the search for a unique referent in a given context?

Coming back to the pragmatic literature, the idea that the determination of the possessive referent does not merely play some or other role, but does in fact go *hand in hand* with the determination of the possessive relation, is inherent in any account which views possessive interpretation as an instance of pragmatic saturation (e.g. Sperber & Wilson, 1986/1995; Carston, 2002; Recanati, 2004).² This stance is mirrored in a recent claim by Gutzmann (2010: 9; my emphasis), who suggests that, for a sentence like *Maria's car is fast*,

“[...] muss die Genitivrelation bestimmt werden, damit dem Satz ein Wahrheitswert zugewiesen werden kann. Das liegt daran, dass **die Relation zwischen genitivischem Attribut und dem Kopfnomen für die Referenz der gesamten NP entscheidend ist**. So kann das Auto, das Maria gehört, ein anderes sein als das Auto, das sie fährt. Um zu bestimmen, auf welches Auto die Sprecherin [...] referiert, muss die Hörerin die Genitivrelation erschließen. Erst wenn sie weiss, auf welches Auto referiert wird, kann sie entscheiden, ob das Auto schnell ist oder nicht.”

“[...] the genitive relation has to be determined in order for the sentence to receive a truth value. This is so because **the relationship between the genitive attribute**

²See my discussion of Recanati's account of primary pragmatic processes in section 4.3.4.

[the possessor phrase; JK] **and the head noun** [the possessum noun; JK] **is critical for the reference of the whole NP**. In this respect, the car that Maria owns can be a different one from the one she drives. In order to determine which car the speaker refers to, the hearer has to determine the genitive relation. Only when she knows which car is being referred to can she decide whether or not the car is fast.”

Arguably, then, the determination of the possessive relation is inextricably linked with the process of reference assignment. More so, the two processes might be regarded as epiphenomenal: in order to determine the referent of a possessive NP, the addressee has to determine the possessive relation, and *vice versa*. In theoretical pragmatic terms, the determination of the possessive relationship thus constitutes a *mandatory* step in the interpretation process of any utterance containing a pre-nominal possessive phrase. This means that without the saturation of the relational variable and the resulting assignment of a salient referent to the possessive NP as a whole, no proposition is yielded. This interdependency may be illustrated as follows:

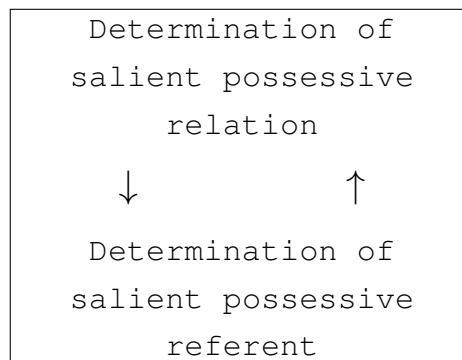


Figure 5.1: Interdependency of the determination of the possessive relation and the determination of the possessive referent

From a functional viewpoint, the selection of one possessive relation over another serves first and foremost a communicative purpose. It allows interlocutors to establish mental contact with a possessum entity *via* its relationship to a possessor entity and, thereby, to determine the possessive referent. In Chapter 7, I will challenge the standard picture which views the two processes as epiphenomenal, but accept it for the present purpose of investigating how the search for a salient possessive relation might be facilitated by the search for a salient referent. Hence, in light of their function as referring expressions, an important question that arises is exactly *how* pre-nominal possessive NPs establish reference, i.e. how they operate as part of longer stretches of text to enable the addressee to successfully identify the speaker-intended referent.

5.2.1 The present endeavour

The starting point of my discussion is that, if the covertness of the possessive relation constitutes a problem when it comes to the determination of possible interpretations, the same should hold for salient interpretations. Put differently, given that the possessive relationship frequently remains unarticulated, what are the ways in which the identifiability of a possessive referent may be promoted in discourse? Other than by way of explicit paraphrasing of the possessive relation, how might addressees succeed in determining the correct referent? To illustrate what I mean by this, let me briefly come back to two examples I discussed in the previous two chapters, repeated here as (66) and (67):

- (66) Someone tapped him on the arm, and as Quinn wheeled to meet the assault, he saw a short, silent man holding out a green and red ballpoint pen to him. Stapled to the pen was a little white paper flag, one side of which read: “This article is the Courtesy of a DEAF MUTE. Pay any price. Thank you for your help.” (...) Quinn reached into his pocket and gave the man a dollar. (...) Using the pen he had bought from the deaf mute, he set about his tasks with diligence. (...) **With the deaf mute’s pen** in his right hand...
- (67) Avoiding warfare, the Icelanders esteemed political flexibility and legal acumen, a cultural focus that is seen in **their literature** ...

In the previous chapter, I suggested that the authorship relationship in (67), which is readily available even without any explicit clues of the kind present in (66), may be inferred on the basis of world knowledge of nations (they produce cultural artefacts, write books, and so forth). Clearly, then, the seemingly novel referent introduced by the NP *their literature* is related in some meaningful way to the referent introduced by the NP *the Icelanders*. Indeed, it seems to be partaking in what might be called a referential chain of NPs which establish coherent discourse by bearing associative relationships with one another. At a cursory glance, explicit paraphrasing of the possessive relation appears to be redundant as long as addressees are able to relate the identities of two (or more) referents in some meaningful, associative manner. Referential chains might be but one example of this.

Therefore, we need to ask what precisely the role of such associative conceptual linking is in possessive interpretation, as well as how it is facilitated through the presence of other discourse referents. The central question to be addressed in this chapter might be put as follows: given the linguistic underdeterminacy of pre-nominal possessives, how does the linguistic context enable addressees to establish mental contact with a salient possessive referent? Before I discuss their referential properties, I will first review some of the previous literature concerned with referential aspects of pre-nominal possessives in natural language contexts.

5.3 Previous studies

To my knowledge, studies of pre-nominal possessives in non-artificial discourse are few. Where they exist, they are concerned with anaphora resolution, the determination of the referential link between a definite expression to sequentially earlier or later discourse entities. Definite expressions are an ideal testing ground for anaphora resolution in particular because of their tendency to refer back to already mentioned discourse referents. Discourse-based studies of this kind are then primarily concerned with definite NPs and their ability to introduce not given, but *new* referents into the discourse (e.g. Fraurud, 1990; Poesio & Vieira, 1998). This tendency has been observed both for ordinary definite descriptions and for certain kinds of definite expressions, such as pre-nominal possessives.³

In the following, I first introduce two studies which make the connection between these two types of definite NP explicit. After that, I discuss two further studies which investigate pre-nominal possessives from an empirical point of view.

5.3.1 Pre-nominal possessives as definite expressions: Barker (2000) and Löbner (1998)

In his study on possessives and discourse novelty, Barker (2000: 3) claims that “NPs containing definite possessors (e.g., *that man’s daughter*) are routinely able to describe novel (unfamiliar) entities”, as in the following:

- (68) a. A man came in.
b. His daughter was with him.

According to Barker, the referent of the NP *his daughter* is not familiar and so introduces a novel discourse referent. Such behaviour is said to be relatively unusual for definite NPs given the so-called familiarity condition. This states that, for its felicitous use, “the referent of a definite description must be familiar” (e.g. Heim, 1982; cited from Barker, 2000: 5). This means that definite descriptions stereotypically refer back to previously introduced, or *given*, discourse participants. While Barker does not preclude the possibility that pre-nominal possessives might not constitute definite expressions in the first place given the lack of hard-and-fast criteria settling the nature of definiteness, this seems unlikely. Pre-nominal possessives routinely pass standard tests of definiteness. They both presuppose uniqueness in the majority of cases, and do not tend to work in existential *there*-constructions of the below kind⁴

³I make a distinction here between definite *descriptions*, i.e. definite NPs of the form *the cat*, *the car*, etc. and definite *expressions*, i.e. NPs which code definiteness through means other than the definite article. The latter include pre-nominal possessives.

⁴As can be seen in (71)(a.), a slight complication is presented by possessive NPs with indefinite possessor determiners (from Abbott, 2010: 212):

- (69) There was a student’s book on the table.
(70) There were several dogs’ leashes hanging in the closet.

- (71) a. There is a man's daughter in the garden.
 b. *There is the man's daughter in the garden.

In light of this evidence, Barker (ibid.: 15) argues that pre-nominal possessives feasibly serve as first-mentions when the possessive relation is “sufficiently salient” (to identify the referent). This is thought to be the case for the class of inherent or lexical possessives (Barker, 1995; Vikner & Jensen, 2002), which evoke a salient relation as part of their semantic structure. An example of this can be seen in (68), where the relational semantics of the noun *daughter* supposedly suffices to denote the correct referent (but cf. my discussion in Chapters 3 and 4).

Ordinary definite descriptions of the form *the X* and pre-nominal possessives are thus similar in that both can (and do) introduce novel discourse referents despite the fact that both code definiteness. While Barker's study is predominantly interested in the referent-introducing potential of pre-nominal possessives and so not directly relevant for the present study, it establishes an interesting connection between definite descriptions and pre-nominal possessives with respect to their behaviour in discourse.

An earlier study that exploits this connection can be found in Löbner (1998). He discusses the concept of *definite associative anaphora* (DAA), defined by Hawkins (1978: 123) as a “textual appeal to general knowledge”, such that

“[...] the mention of one NP, e.g. *a wedding*, can conjure up a whole set of associations for the hearer which permit *the bride*, *the bridesmaids*, etc. I shall refer to the first NP as ‘the trigger’, since it triggers off the associations, and to first-mention definite descriptions which are dependent on this trigger as ‘the associates’.”

Typical examples of DAA include the following (from Nissim, 2001: 4; emphasis in original):

- (72) We reached a very old village. **The church** was brand new, though.
 (73) I saw a car skidding. **The driver** was clearly drunk.

In Hawkins' words, *the village* in (72) and *the car* in (73) constitute the respective triggers, which the associates denoted by the definite descriptions *the church* and *the driver* depend on for their anaphoric interpretation. Definite descriptions of this kind typically leave their possessor implicit, so that the part-whole relation between the village and the church, and the control relation between the car and its driver, has to be supplied based on world knowledge. According to Löbner (1998: 1, my emphasis), DAA also includes what he calls “explicit versions” or “definite expressions of the same kind with *overt* anaphoric links”, e.g.

Abbott notes that the definiteness of a possessive NPs appears to be determined by the definiteness of the determiner NP, which explains the difference between the two sentences in (71).

- (74) So it was a big cheering surprise when I opened the front door of Eva's house one day to find Uncle Ted standing there in his green overalls, a bag of tools hanging from his fist, smiling all over his chopped face.

By “overt” Löbner refers to the explicit coding of the possessor by means of a possessive pronoun (e.g. *his green overalls*) or the possessive marker (e.g. *Eva's house*), which in the case of the definite NPs in (72) and (73) has to be inferred. Of course, this explicit coding does not mean that the actual relation which holds between possessor and possessum is also coded. This, as I will demonstrate in this chapter and the next, has to be established on the basis of co-textual information. Much like Barker's, Löbner's study reinforces the already mentioned parallels between definite descriptions and possessive expressions by conceiving of (possessive) referent identification in terms of associative or bridging anaphora (e.g. Clark, 1977). Unfortunately, however, he does not extend these insights to any large-scale empirical investigation.

What is more, the theoretical notion of definiteness, as already indicated by Barker, is by no means straightforward given its structural-grammatical dimension (e.g. the choice of determiner) on the one hand, and its semantic-functional dimension (e.g. the concepts of familiarity and uniqueness) on the other (cf. Russell, 1905; Kamp, 1981; Heim, 1982; Lyons, 1999).⁵ To date, it is not entirely clear what counts as a definite expression. I will therefore eschew these complexities here and adopt a more pragmatically oriented definition, which will allow us to safely include pre-nominal possessives in the group of definite expressions and bypass the common objections. In line with e.g. Goard (2003: 1), I assume that “a nominal is definite iff its felicity is associated with its profiling one and only one maximally salient referent.” This salience approach to definiteness (see also Lewis, 1970, 1979; von Heusinger, 2013) is particularly apt for pre-nominal possessives, since their function is to pick out a salient referent from among a set of contextually plausible referents.

The similarities between ordinary definite NPs, such as *the car*, and pre-nominal possessive NPs, such as *John's car*, are then obvious: both types of definite expression constitute “incomplete description[s] whose referential interpretation calls [...] for the linguistic context” (Charrolles, 1999). What is meant here by ‘incomplete’ is the fact that definite descriptions require matching up with a referent in order to be truth-evaluable. This process is bridged by means of a contextually established relation which holds between the interlocutor(s) on the one hand and the referred to entity in question on the other. For example, if I ask you to pass me *the salt* in a dinner setting, I mean to pick out from the set of salt containers the one salient container which is located in unambiguous vicinity to both of us and which, as a result, I trust you to be able to identify. Likewise, if I ask you how *your* mother is, I mean to pick out a particular mother who is sufficiently salient to both of us to secure my intended reference.

⁵For a careful discussion of these issues, see e.g. von Heusinger (2013) and Willemse (2005).

Not surprisingly, then, parallels such as these underlying the interpretation of ordinary definite descriptions and possessive definite expressions have led a number of researchers to investigate both types along similar lines also from an *empirical* point of view (see e.g. Charrolles & Kleiber (1999) and Nissim (2001) for good overviews). I will now discuss two of these in more detail.

5.3.2 Corpus studies of pre-nominal possessives: Willemse (2005) and Vikner & Jensen (2003, 2004)

An important empirical study which makes use of the above insights, and revolves around the identifiability of NP referents within a larger stretch of text, is Peter Willemse's (2005) study of *phoric* NPs.⁶ Willemse presents a corpus analysis of pre-nominal possessives which investigates their *discourse status*, i.e. "the discourse 'givenness' vs. 'newness' of a [possessive] referent and the status of certain referents as 'text topics'" (Willemse, 2005: 47). Since possessive constructions tend to code definiteness (e.g. Barker, 2000; von Heusinger, 2013), their discourse status has been alleged to be primarily 'given'. Contrary to this, Taylor (1996) argues that possessive referents introduce primarily 'new' referents into the discourse.

Pace both, Willemse shows via a corpus analysis of 400 pre-nominal possessive tokens in a wide range of contexts that we are actually dealing with a complex continuum of discourse statuses. These range from co-reference with a previously named entity to a completely newly introduced entity, with a number of more 'inbetween' statuses. One of these is *bridging*, a type of inference already discussed by Löbner, as e.g. in the following (from Willemse, 2005: 120):

- (77) As she sprang to her feet and ran to Alistair, the book fell to the floor, face downwards, **its pages** doubling up in disorder.

Willemse argues that, despite not having been introduced as an active discourse referent

⁶Phoric NPs are "items [which] require that information be recovered from the context" (Martin, 1992: 99). The term *phoricity* then refers to a discourse entity's identifiability within a given stretch of discourse based on anaphoric and cataphoric information retrieval (see also Breban, Davidse & Ghesquière, 2011). The main difference between anaphora and cataphora lies in the way in which the linguistic context makes a referent identifiable with respect to the location of its antecedent:

- (75) Dear Doctor

My cherished Höfner acoustic guitar recently tried to murder me for leaving it in the boot of the car on a hot sunny day. As I opened the case I heard a groaning, splintering noise, which caused me to experience extreme pain as the bridge flew off and whacked me on the side of the head! Help! What do I do? I'm not worried about **my head**, but how do I fix my guitar? (H7W 2020)

- (76) After it fell in the sink, **John's phone** was completely unusable.

Anaphoric and cataphoric reference are typically a case of two co-referential NPs. In anaphoric reference, the sequentially earlier one (e.g. *the head* in (75)) serves as the antecedent for the sequentially later one (*my head*). In cataphoric reference, the opposite occurs: the sequentially later NP (*John's phone* in (76)) serves as the antecedent (or postcedent) for the sequentially earlier one (*it*).

prior to its mention here, the referent of *its pages* in (77) can be inferred from the mention of *the book*. This is possible because the identity of the former referent is associated with the identity of the latter. Thus, not only does bridging allow the addressee to activate a new discourse referent (*pages*), it also allows her to construct the kind of *referential* knowledge necessary to its identification proper: that is, the fact that the pages are *part of* the previously mentioned book. In other words, bridging establishes both the existence of a new referent as well as its relation to an ‘antecedent’ NP. This insight is important for the question of how referential knowledge is established in possessive interpretation, and something I will discuss in more detail in section 5.5.

For now, Willemse’s study is important for the purpose of investigating the functional dimension surrounding the process of possessive interpretation because it elaborates on the discourse perspective that was opened up by the studies of Barker (2000) and Löbner (1998). What Willemse’s study also illustrates is that, by considering pre-nominal possessives in their natural discourse environments, we end up with a much more representative picture of the pre-nominal possessive construction. Most importantly, the discourse status of the possessive referent as defined by Willemse and illustrated briefly in (77) will be shown to be among the types of information which play a central role in the determination of the possessive relation.

A second empirical study is offered by Vikner & Jensen (2003, 2004), whose work I discussed in detail from the point of view of default interpretations in the previous two chapters. Vikner & Jensen consider 2,333 possessive phrases extracted from one fictional and one non-fictional text. Based on their taxonomy of different kinds of possessive interpretations (Inherent, Part-whole, Producer, Control, Pragmatic), they are interested in how the five interpretational categories divide up quantitatively in natural language discourse. Unfortunately, despite a few sketchy mentions of contextual support (or the lack thereof), Vikner & Jensen’s study does not consider the precise ways in which the context provides a salient possessive relation. Furthermore, as discussed in Chapter 4, Vikner & Jensen’s (2002, 2003) construal of context is too narrow to capture the complex array of factors which aid the addressee in inferring the salient relation which holds between two entities in any given context. To recap, they cite the following examples as instances of null contexts:

- (78) The French believe they can, but one has only to read their books to mark ...
- (79) Avoiding warfare, the Icelanders esteemed political flexibility and legal acumen, a cultural focus that is seen in their literature ...

I have argued, contra Vikner & Jensen, that for both examples the relation can be straightforwardly inferred from the mention of the French and the Icelanders respectively. Their corpus results, which establish the majority of their possessive tokens as receiving no contextual explanation and, consequently, as constituting instances of lexical interpretations, are thus a reflection of their limited working definition of context. This, as I demonstrated previously, appears to

be limited to very *explicit* mentions of the salient relation in the surrounding linguistic context. Nevertheless, their study sets the scene for any empirical investigation into possessive interpretations. It will thus serve as the basis for my own corpus study, which I present in the next chapter.

Before I move on to discuss the complex interdependency between discourse properties of possessive referents and the selection of the possessive relation, let me take stock of what I have established so far. With regard to the question of how discourse contexts render possessive referents identifiable, both Willemse's and Vikner & Jensen's studies introduce important empirical angles to what we have seen are complex theoretical issues. However, while both present interesting results, I believe that neither offers a satisfactory account of salient possessive relations.

Firstly, Vikner & Jensen's study is not sufficiently representative in a number of ways. Not only is it problematic in terms of its restrictive *theoretical* conception of context, it also fails to offer an operationalisation of context, i.e. a workable definition for its application to natural language data. Any arguments against or in favour of contextual support subsequently seem somewhat difficult to verify. Methodologically, their data selection is limited to two texts, which is problematic from the point of view of style. This pertains to the choice of certain linguistic constructions over other, meaning-equivalent ones (e.g. Sperber & Wilson, 1987: 706). Fundamentally, it is difficult to come up with any meaningful generalisations about what kinds of relations are expressed without looking at as wide a breadth of speakers/authors as possible. Given that Vikner & Jensen are not concerned with the question of what determines a speaker's choice of lexical material in order to express a particular relation between two entities, this may appear sufficient. However, not controlling for this factor could well mean that the small number of pragmatic interpretations found in their data is due to personal choices made by the author. It may simply be the case that they chose to express what Vikner & Jensen call 'pragmatic' interpretations by using a different NP type (e.g. 'the shoes Carrie gave to her sister' as opposed to 'Carrie's shoes'), in which case the near absence of pragmatic interpretations would not be for reasons of inherent rarity or their less privileged and 'non-semantic' status.

Thus, while Vikner & Jensen's corpus study is an important step in the direction of investigating possessive interpretations empirically, it cannot be said to be entirely representative in terms of the way it treats contextual variables, as well from the viewpoint of its methodological foundation. Aside from the first premise of the argument from interpretation, this foundation is further characterised by the second premise, which views the necessity for contextual support as contingent upon the possessum noun's interpretation group. I will return to these issues in more detail in the next chapter, where I present a working definition of context which renders it analysable from a quantitative point of view. The present chapter will serve to introduce a number of concepts in preparation for this study.

Willemse's study, on the other hand, is not concerned with possessive interpretations in the first place. Instead, it seeks to tease apart the various ways in which the possessee referent, the referent denoted by the possessum noun, is activated or 'retrievable' within a given discourse. In his empirical study, Willemse thus ignores the precise relation which holds between the two nominal referents construction-internally. He views this referent so to speak independently of its higher-order relation with the possessor referent, which is something I will problematise in section 5.5.1. Furthermore, he is keen to distinguish between the possessee referent's *discourse* status, i.e. its status as a given or new entity, and its *identifiability* status, i.e. the way it becomes *referentially* identifiable to the reader/hearer as a combination of the context, the conceptual anchoring of the possessum to the possessor and other pragmatic factors. Despite the fact that the concept of *identifiability* is rather broad and extends beyond the notion of phoricity, Willemse does not elaborate on this. Instead, he claims to merely look at possessee referents from what he calls an "external discourse perspective" (Willemse, 2005: 135).

In sum, even though Willemse's study does not contribute directly to the question of how salient possessive relations are determined, it contributes vital insights to how possessee referents are made identifiable by means of their relationship to other discourse referents. These insights are essential to the question at hand since, as I will demonstrate in the next section, discourse referent identifiability plays an important part also in the determination of the possessive relation. To facilitate a discussion of how this interdependency might be characterised, I will now present Langacker's (1991, 1993, 1995) functional analysis of pre-nominal possessives as referring expressions, which will serve as the groundwork for my own analysis (albeit not without slight modifications). Subsequently, I will return to Willemse's taxonomy of discourse statuses and analyse the complex ways in which some of these promote both the discourse and the real world identifiability of the possessive referent.

5.4 Pre-nominal possessives as *reference-point constructions*

As I established in section 5.2, the function of pre-nominal possessives is to pick out, or linguistically refer to, a contextually salient entity. To give a second example, in order to refer to a given dog who stands in, say, an ownership relation to a given woman, a speaker may feasibly say:

(80) **The woman's dog** is called Spike.

In the cognitive-functional literature (e.g. Langacker 1991, 1993, 1995; Taylor, 1996), pre-nominal possessive phrases are among numerous types of NP expressions which have tradition-

ally been analysed as so-called *reference-point constructions*.⁷ These are thought to exploit our ability to envisage one entity *via* another, a general cognitive ability we make use of to identify and locate a multitude of things in the world. For instance, it is common to locate a paragraph in a book by first locating the specific page it is part of, or perhaps to identify important contributors to a newly-emerging field in linguistics by first identifying the research questions it works with.

According to Langacker (1993: 6), reference-point constructions comprise a *conceptualiser* (*C*) who establishes mental contact with a particular *target entity* (*T*) via a more prominent or salient entity in the context, also referred to as the *reference point* (*R*). This conceptualisation proceeds within a *dominion* (*D*), of which the target entity is a part (see Figure 5.2). The dominion is defined as “the conceptual region (or the set of entities) to which a particular reference point affords direct access” (Langacker, 1993: 6).

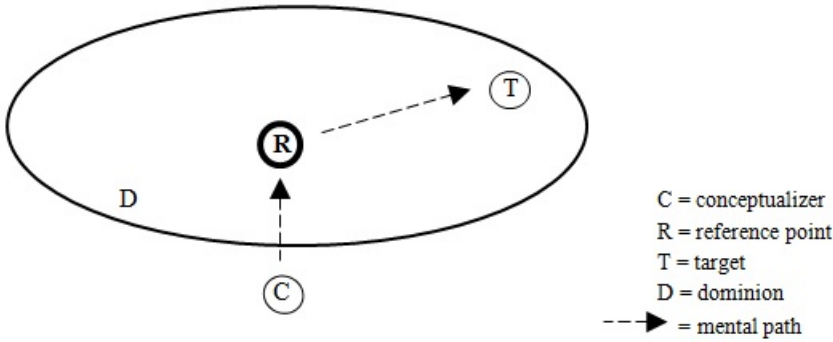


Figure 5.2: Reference-point constructions (from Langacker, 1993: 6)

For example, when using a pre-nominal possessive, the conceptualiser will conceptualise the possessum (the target entity *T*) via the possessor referent (the reference point *R*) in order to be able to identify and refer to it. Smith (2006: 9) illustrates this by discussing the example phrase *John’s car*, where

“the possessor *John* serves as the conceptual reference point *R* used by the conceptualizer *C* for locating the target *T*, *car*, within a contextually determined dominion *D* of potential targets, that is, entities that the possessor might conceivably own.”

To reiterate, the function of pre-nominal possessives is quite simply to refer. They provide a short-hand expression for the denotation of a salient entity which stands in some inherent or otherwise contextually established relationship to another salient entity. This, in turn, allows

⁷Other instances of reference-point constructions are metonymic expressions (e.g. *The coach is going to put some fresh legs in the game*) and pronoun-antecedent relationships (e.g. *When he entered the room, the man looked confused.*).

the addressee to individuate it from amongst a set of plausible entities that are denoted by the possessum noun alone. Prior to its actualisation in a possessive NP, this possessum noun is *non-referential* on its own (see section 5.5.1). The hearer's perspective is then similar to the speaker's perspective in that both establish mental contact with the salient entity by means of the reference-point relationship. Langacker describes this abstract, generic level as the *image-schematic* level, which is common to the use and interpretation of all pre-nominal possessive NPs.

A second level at which pre-nominal possessives are characterised is at the level of *conceptual archetypes*, involving relations “which are all more contentful and less schematic versions of the reference-point relation” (Willemse, 2005: 29). Compared to the image-schematic level, at which *any* possessive relation may be expressed, this level pertains to those relations which are most commonly expressed, i.e. kinship, part-whole and ownership. These are considered prototypical inasmuch as they “saliently incorporate[] a reference-point relationship” (Langacker, 1993: 8).⁸ For example, owners function as natural reference-points for the things they possess. The same holds for relatives and wholes, since both strongly evoke the presence of the associated members of kin and of the associated parts, respectively. In the majority of cases, this association is so strong that it is *required* to realise the reference of the associated entity (Willemse, 2005: 30): kinship relations are defined by the existence of other members of kin (e.g. mother – child, uncle – niece/nephew), and parts do not usually exist without their wholes (e.g. leg – body, tail – animal). Furthermore, in prototypical possessive relations of this kind, the possessor has what Willemse (2005: 33) calls ‘privileged’ access to the possessum. According to Langacker (2003: 93), this “amount[s] to the potential for spatial, experiential, and/or force dynamic interaction.” This can be most clearly seen in cases of ownership, where the possessor may manipulate or physically control an entity, as well as in part-whole relationships, where the possessor has experiential control over the possessum.

While the image-schematic and the prototype level differ predominantly with regard to how schematic they are, they are also thought to represent different ways in which the process of referent individuation takes place. On the image-schematic level, the possessive relation is said to be merely *subjectively* construed, while the prototype level additionally involves an objective situation in which the possessive relation is grounded. Willemse (2005: 34; my addition, emphasis in original) describes this as follows:

“The relation of static control [pertaining to the prototype level] is “*onstage* and *objectively construed*”, i.e. it is part of the objective situation which is being described. In contrast, the relation of mental access with the target via the reference point [pertaining to the image-schematic level] is “*offstage* and *subjectively con-*

⁸As Willemse (2005: 30) rightly notes, “[w]hich relations count as prototypical possessive relations is certainly not an uncontroversial matter. However, many scholars consider kinship, ownership and part-whole as prototypical, cf. e.g. Taylor (1999), Rosenbach (2002) and, for a typological perspective, Koptjevskaja-Tamm (2001, 2002).”

strued” (Langacker, 2003: 93; italics as in the original), i.e. it does not form part of the described situation. It is here that mental identification is situated, in the sense that the ‘anchoring’ to a possessor is used to identify and distinguish an entity from others.”

This difference is illustrated in Figure 5.3:

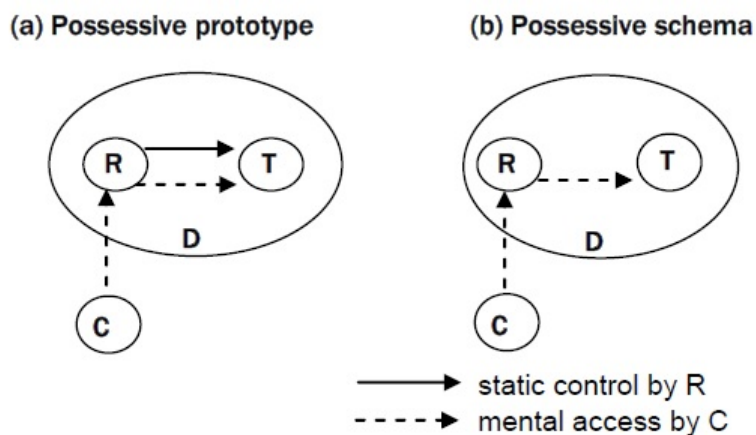


Figure 5.3: Possession: prototype and schema (taken from Langacker (2003: 94))

The dashed arrow represents the mental access established by the conceptualiser (*C*) to the referent in question, which is facilitated when a pre-nominal possessive NP is used in communication. In this respect, it is common to both the prototype (drawing (a)) and the image-schematic level (drawing (b)). In other words, referent identification is a subjective process which reduces to mentally establishing access to a salient entity. In the case of prototypical uses, this subjective construal is grounded in an objective, material relationship which holds between possessor and possessum (Willemse, 2005: 45-35), as indicated by the solid arrow in drawing (a) of Figure 5.3. In turn, the less prototypical the use of the possessive NP, the less objective this relationship is taken to be, as indicated by the absence of the solid arrow. For example, in the NP *the dog’s enormous size* or *my critics*, the underlying objective relationship is less obvious since it does not involve instances of control or the potential for experiential or spatial interaction. The determination of a salient relation is, however, still possible since,

“in all cases, *C* subjectively follows a mental path of access from *R* to *T*—what varies is the extent to which this path is motivated by apprehending an objectively construed relationship of *R* having access to *T*.” (Langacker, 2003: 95)

The interpretation of a pre-nominal possessive is then always a subjectively construed process: that is, one based on the addressee’s mental grasp of a salient referent, with a more or less objective basis depending on the kind of relationship expressed. This basis, however, is not encoded directly in the pre-nominal possessive construction in the way that it might be in

predicative possession (see Chapter 1). According to Taylor (1996: 351, emphasis in original), “[t]he point of the expression is to convey the *accessibility of the target to the conceptualizer, given the reference point*.” This is an important aspect to bear in mind for any systematic description of pre-nominal possessives, because it suggests that the possessive relation’s precise conceptual content (as represented by the addressee) can be expected to differ based on her subjective construal of it, which is something I will discuss in detail in Chapter 7.

The main strength of the reference-point analysis lies in the fact that it can account for three features which are characteristic of pre-nominal possessives (Langacker, 1991; Taylor, 1996; Willemse, 2005). Firstly, it can account for the array of relations expressible by positing that the commonality amongst them lies in their pragmatic function of facilitating an interlocutor’s mental access to one entity *via* another. Secondly, apart from this *schematic* level which covers ALL of their uses, a number of conceptual archetypes are posited at the *prototype* level. This accounts for many of the major relations that are frequently expressed, i.e. kinship, part-whole and ownership. Finally, the reference-point analysis predicts the asymmetry in how the relationship between two entities is conceived. It is not usual to visualise, say, an animal via its tail (e.g. *the tail’s animal*) because the chosen reference point is thought to possess “a certain cognitive salience, either intrinsic or contextually determined” (Langacker, 1993: 6).⁹

Overall, the reference-point analysis is extremely potent and attractive from a theoretical point of view inasmuch as it correctly predicts and explains the various characteristics exhibited by the pre-nominal possessive construction. I will therefore adopt it as the basis for my own analysis. Simultaneously, I will seek to supplement it with new insights which consider the *contextual dependence* of the reference-point mechanism. As I suggested in Chapter 2, given that it “leaves open the precise nature of the connection between possessor and possess[um]” (Langacker, 2009: 55), the reference-point model is too schematic to tell us much about how precisely addressees establish mental access to a salient possessive referent in natural language contexts. This aspect, which I will consider in the following section, has hitherto and to my knowledge not received any obvious attention in the cognitive-functional literature.

⁹I will not go into the details of why the possessor is frequently a better reference point than the possessum, but refer the interested reader to Taylor (1996: 205-261), who devises a number of characteristics of possessors (such as *cue validity* and *topicality*) which naturally account for their higher salience.

5.5 Possessive referents, discourse status and referent identifiability

5.5.1 Possessive referents and the reference-point mechanism

Implicit in my concluding remarks of the previous section is the idea that the reference-point mechanism is not sufficient to give us a full picture of how possessive referent identification works in context. To better understand why this is so, a brief word is necessary on my use of the term *possessive referent*. This represents a slight deviation from Willemse’s focus on the possessee referent that I mentioned in section 5.3.2.

The notion of a possessee referent stems from Willemse (2005)’s distinction between two referents of a possessive NP such as *Carrie’s blue shoes with high heels*: the possessor referent, specified by a genitive modifier (e.g. *Carrie’s*), and the possessee referent, specified by a head noun and potential pre- or post-nominal modifiers (e.g. *blue shoes with high heels*). Taken together, the ‘composite’, higher-order referent consisting of both the possessor and the possessee referent is supposedly fully specified in terms of the relationship which holds between Carrie and the salient shoes. Table 5.1 illustrates this view of the referential structure of pre-nominal possessives:

Component structures	<i>Carrie’s</i> GEN	<i>[blue] shoes [with high heels]</i> [MOD] N [MOD]
REFERENCE: Component structures	Possessor: ‘Carrie’	Possessee: ‘shoes’
REFERENCE: Composite structure	Higher-order Possessee: ‘Carrie’s shoes’ ((the) shoes which belong to Carrie)	

Table 5.1: The referential structure of pre-nominal possessive NPs (taken from Willemse (2005: 108))

I reject Willemse’s notion of the possessee referent component structure in assuming that the possessum nominal does not establish concrete, token-level reference in the first place. Instead, I suggest that it designates a class or type of entity, while the composite structure comprising the possessum nominal AND the possessor modifier signals the existence of a particular instance of this type (see also Langacker 1991: 143; Diessel, 2006; Breban, 2012: 476). The precise

identity of this instance is subsequently elaborated within a salient context. This means that reference assignment may only proceed at the level of the composite structure coupled with a particular context. This requirement of contextual ‘completion’ further suggests that any isolated possessive NP should be regarded as *non-referring* by itself. This naturally explains why the absence of a discourse context frequently prompts a *range* of plausible possessive relations to the detriment of a single salient relation. It is this relation which, as I will argue, may be determined only on the basis of the search for a salient referent. I will therefore not make use of the term possessee referent here, but instead speak of the *possessive* referent, which is synonymous with Willemse’s notion of the higher-order referent.

This also explains why the reference-point analysis, while attractive from a theoretical point of view, is insufficient for the purpose of fully capturing the process of possessive interpretation. Even though it captures the transition from an initially non-referential possessum noun to a referentially determinate NP denoting the possessive referent, it lacks a description of the nature of the pragmatic processes that enable this step. *Pace* Willemse, who follows a long-standing tradition in assuming that the relation which holds between Carrie and the blue high-heeled shoes at the level of the composite structure is one of ownership, I will therefore assume that the composite structure merely signals the availability of *some* salient relation *R* which holds between the possessor referent and the possessum nominal.

Crucially, then, it is information contained within the linguistic context which is required in the addressee’s determination of the precise nature of this relation. This is so because, as we are now in a position to specify, the reference-point relationship as coded by the composite structure is linguistically underdetermined. This means that the determination of the relation which holds between two entities in any given possessive NP is a matter of pragmatic reasoning, and so cannot be determined on the basis of the reference-point relationship alone. The identification of the possessive referent can only proceed if this relation is known.

We can thus narrow down our initial question of how addressees establish mental contact with a salient possessive referent despite the linguistic underdeterminacy of the pre-nominal possessive construction (see section 5.2.1). Given our knowledge to this point, we need to ask how the linguistic context enables addressees to identify a salient possessive referent *despite the underspecification of the reference-point relationship*. Thus, while the construction itself encodes the reference-point relationship, which in turn constitutes its semantic content, this content itself represents no more than an instruction to the addressee to manipulate in some contextually salient way the conceptual material encoded by the constructional parts. This suggests the following reformulation of the reference-point relationship:

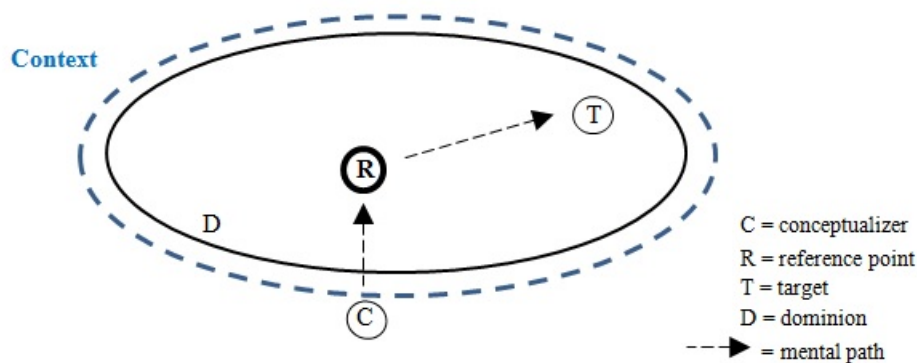


Figure 5.4: Reference-point constructions in context

The dashed circle in Figure 5.4 indicates the context-dependence of the reference-point mechanism. The context is thus needed to pick out from a plausible dominion a target entity which matches the information supplied by and contained within this context. Note that the dominion is contained within this contextualised reference-point relationship. This falls out rather naturally from the fact that the precise nature of the dominion, which specifies the set of possible relations that ought to be evaluated prior to the identification of the possessive referent, is context-dependent itself. As I suggested in the previous chapter, any static view of which possessive relations constitute the set of possible relations does not do justice to the fact that different such sets may be available to different interlocutors depending on which situation-specific assumptions about the possessor referent and the entity described by the possessum nominal are accessible in any given situation. Therefore, both compositional knowledge about possible possessive relations and referential knowledge about the salient possessive relation rely on the pragmatic context. Put differently, while a particular schematic constellation of two referents in the shape of a reference-point construction may, by virtue of its dominion, yield a number of plausible choices as to the identity of the composite referent, its final determination requires the input from context. As I have previously emphasised, it is only at this stage that reference assignment can take place.

In the remainder of this chapter, I will take steps towards a description of some of the ways in which information contained in the linguistic context may contribute to a possessive referent's identifiability. To begin with, I will introduce Willemse's taxonomy of discourse statuses, i.e. the way in which a possessive referent partakes in referential chains with other discourse referents. I then discuss the notion of *referent identifiability* more generally whilst elaborating on an observation I made in section 5.3.2, namely that the identity of a possessive referent can sometimes be inferred indirectly from bridging relationships among discourse referents. To clarify this close relationship, I define two types of referent identifiability, i.e. *construction-internal* and *construction-external identifiability*, and examine the interdependency between them.

5.5.2 Discourse status

As mentioned in section 5.3.2, Willemse's use of the term discourse status refers to the possessee referent's degree of activation within a given stretch of discourse. The degree of activation of any such referent depends on whether it is either given or new within a discourse. This is normally defined with respect to whether it has been previously mentioned. According to Willemse (2005: 106-133), the traditional dichotomy of given (= previously mentioned) vs. new (= not previously mentioned) referents ought to be expanded to allow for a broader array of discourse statuses that takes into account *degrees* of activation or mental accessibility of the possessive referent.¹⁰ He distinguishes among the following five categories (followed by selected examples from the Collins Cobuild Corpus; possessive token in bold; my emphasis):

i. Co-reference

Co-reference between a possessive referent and an antecedent holds when the former has been introduced into the preceding discourse, typically by means of an indefinite noun phrase (here: *a majority verdict*), and is subsequently referred back to by another NP (here: *the verdict*, *the jury's verdict*).

- (81) Mr Ashby, a former name who suffered substantial losses at Lloyd's, had sought damages over an article in January last year alleging that he shared a double bed with another man on holiday in Goa. And when the jury found against him in a majority verdict, he put his head in his hands and wept. [...] After the verdict, the newspaper's solicitor, Alistair Brett, said he would expect the present editor, John Witherow, to see the case as a 'tragic family problem' and be sensible about what to do now. [...] Senior Tories expressed their determination to help him after the verdict and launched a campaign 'to keep him buoyant' that was immediately evident in his reception in the Commons. [...] He has 28 days to appeal against **the jury's verdict** and it is then likely to take up to nine months for his costs to be determined by taxation proceedings.

ii. Text reference

Willemse's category of Text reference goes back to Halliday & Hasan's (1976: 52-53, 66-67) treatment of the demonstratives *this* and *that* and the pronoun *it* as linguistic devices which can refer back to "any identifiable portion of text" instead of "an entity that is encoded linguistically as a 'participant'" (Halliday & Hasan, 1976: 52; quoted from Willemse, 2005: 93). Text reference is in some sense similar to co-reference, the notable exception being that the (co-)reference between an antecedent and its text referent is not based on a nominal participant

¹⁰It should be noted at this point that Willemse's endeavour is not a new one. Other scholars, including Ariel (1990), Prince (1981, 1992), Gundel et al. (1993) and Birner & Ward (1998), have done substantive amounts of work towards extending existing taxonomies of how the referents of definite NPs are rendered identifiable in context. Unlike Willemse's work, however, this line of work does not focus specifically on pre-nominal possessives but is concerned with definite NPs more generally. Willemse's work is unique in this respect because it expands the taxonomy of discourse statuses for *possessive* referents.

chain, such as *a majority verdict* → *the verdict* → *the jury's verdict*. Instead, the possessive referent is considered a text referent which is construed on the basis of any, but typically non-nominal, part of the preceding discourse. Consider the following, where the underlined segment constitutes such a stretch of discourse:

- (82) Thanks to the federal prosecutor in Munich, compuserve subscribers no longer have access to 200 dubious and distinctly sad Internet newsgroups catering for people who think sex is an activity that can be pursued through a mouse and a modem. The Germans, in a fit of prudishness, told compuserve it would be prosecuted if it did not stop allowing their citizens to leapfrog through the commercial service into the Internet which is quite beyond the company's control and read the poison on their pcs. Because compuserve is an international network, it had no option but to pull the 200 offending newsgroups from its entire world subscription base of 4m users. **The prosecutor's decision** was plain stupid.

iii. Bridging

The discourse status Bridging captures the kind of indirect association I discussed in section 5.3.2 under the heading of *definite associative anaphora* (Löbner, 1998), where “the possessee referent is identifiable based on its association with a preceding referent or with a scenario in the preceding context” (Willemse, 2005: 109), as e.g. in example (77), repeated here as (83).

- (83) As she sprang to her feet and ran to Alistair, the book fell to the floor, face downwards, **its pages** doubling up in disorder.

iv. Anchoring

Willemse's Anchoring category is in many ways similar to the Bridging category in that “the possessee referent is ‘anchored’ to (an) element(s) in the preceding discourse, which reduces its ‘newness’” (Willemse, 2005: 109), e.g.

- (84) ‘It's over with’. She knew she must learn to say that, again and again. ‘All done’. She tugged at **her sleeves** and buried **her hands** in the cuffs of **her sweater**. [CB]

For example, the identity of the bold NPs in (84) is said to be anchored to, and thus inferable from, the mention of the female discourse participant referred to by the pronoun *she*. The association between this person and *her sleeves/sweater* is based on the fact that human beings typically wear clothes, while that between her and *her hands* exploits the inalienable relationship between human beings and their body-parts. I will have more to say about the similarities between Bridging and Anchoring in section 5.5.3.2, but for now simply note that both are based on an associative link between an already mentioned discourse participant and its parts. For Willemse, the crucial difference lies in whether the inferred referent can be introduced *via* the definite article, which is the case for bridging, but not for anchoring relationships.

v. New

The New category comprises cases where the possessive referent is first introduced as a novel discourse participant by the possessive NP and bears no relationship to the previous discourse. For Willemse (2005: 129), “[t]his implies not only that the referent in question has not been mentioned as such in the preceding discourse, but also that it cannot be inferred on the basis of elements in the preceding discourse context.” Willemse gives the following example:

- (85) His Turnable Emergency Non-capsizable Triangular System (Tents) will inflate as it is launched, leaving a gap for four people to crawl in before the entrance is sealed by a zip. It can survive punctures in two of its surfaces and still remain afloat. Hunter has produced two prototypes and is in talks with a lifeboat manufacturer that could lead to **the system’s launch** in the spring of next year.

The possessee (possessive) referent in (85), the launch of Tents, is supposed to be completely unassociated with any of the discourse context which precedes it.

As can be seen from Willemse’s taxonomy, there exist three categories of discourse status, namely *Text reference*, *Bridging* and *Anchoring*, which are located somewhere inbetween the given-new dichotomy. Having introduced the notion of discourse status, I will now consider a related concept which I have already been using as part of my discussion of the referential function of pre-nominal possessives, i.e. the *identifiability* of the possessive referent.

5.5.3 Referent identifiability

The term *referent identifiability*, as I will use it, refers to the two ways in which the possessive referent is identifiable to interlocutors based on a) its discourse status, and b) the contextualised anchoring of a salient possessum to a salient possessor entity in order to denote a referent in the real world. That both of these are important in a description of possessive NPs falls out from the way I conceive of their referential properties (see section 5.5.1).¹¹ The process of referent

¹¹Note that Willemse uses the term differently to denote real world identifiability only. His point of departure is that pre-nominal possessives have traditionally been regarded as denoting definite and, by virtue of this, *uniquely identifiable* entities within a discourse (e.g. Barker, 1995, 2000), but cf. Lambrecht (1994) and Breban (2012) on the discrepancy between definiteness and identifiability). He (2005: 7) notes that

“usually the ‘identification’ involved in resolving reference is not the actual identification of an object or individual in the outside world [...], but rather the precise location of a specific referent in the discourse model so that it is distinguished from other referents.”

The latter is what he refers to as the possessive referent’s *discourse status*. Thus, while Willemse quite rightly captures the two ways in which referent identifiability can be established within discourse, he (ibid.: 59) concretises his notion of the term *referent identifiability* at a later stage, defining it solely as the way in which the referents denoted by the possessor and the possessum “are linked to each other by the reference-point relationship that is established in the possessive NP”, i.e. its real world identifiability. On the other hand, the term *discourse status* pertains to the question of how the possessee referent in particular stands in a given vs. new relationship with the surrounding discourse. Willemse thus distinguishes between the two concepts, pointing out that in delineating the

identification, which constitutes the central topic of the present chapter, might then be regarded as the process whereby addressees establish mental contact with said referent on the basis of these two aspects.

Let me say a bit more about what I mean by this by considering the following example (from Willemse, 2005: 112):

- (86) On Monday, Christie's in New York is to sell Greta Garbo's knickers. They are described with proper dignity. 'A pair of silk, cream-coloured ladies' briefs (...) In fact they are a souvenir of what Christie's delicately call 'a night of romance' between Garbo and the Mexican star Roland Gilbert. (...) When they parted, Roland gave Garbo the gold ring he was wearing and was given **the actress's silk panties** in exchange.

In (86), the possessive NP in bold, *the actress's silk panties*, is identifiable as a *discourse referent* due to its co-reference with the NP *Greta Garbo's knickers*. This type of identifiability refers to its discourse status, i.e. the way it is linked to other referents in an existing stretch of discourse. Thus, the mention of the actress's silk panties at the stage at which it occurs is not new – the referent was previously activated in the discourse through the NP *Greta Garbo's knickers*. Importantly, however, the referent's identifiability as a discourse referent does not strictly speaking also warrant its identifiability as a *real world referent*.¹² In other words, the referential identity which results from the fact that Greta Garbo stands in a certain relation to the underwear is not necessarily warranted in co-referential NP chains.

In fact, this information should have been resolved when the possessive referent was first introduced into the discourse, and so arguably no longer comes into play at the level of discourse-given entities. Therefore, despite the fact that we have strong intuitions that the relationship between Greta Garbo and the underwear is one of ownership, the discourse status alone does not tell us much to this respect. The ownership relation is instead promoted by the mention of "a night of romance between Garbo and Roland Gilbert", which in turn strongly evokes the concept of underwear.

It is precisely this tendency which leads me to define referent identifiability as a two-way relation between the possessive referent's discourse status and the inferential input coming from

various discourse statuses of the possessee referent, his concern is *not* with how the reference-point construction promotes its real world identifiability.

Just like my own conception of what referent identifiability amounts to, Willemse's distinction between referent identifiability and discourse status is a result of how he carves up the referential levels of pre-nominal possessive NPs (see Table 5.1), i.e. by conceiving of the entity denoted by the possessum nominal as a referent *regardless* of the relationship in which it stands to the possessor. Conceiving of the referent like that simplifies the question of referent identifiability greatly because it allows the coder to regard the question from the point of view of discourse identifiability only, while relaying the question of real world identifiability to the workings of the reference-point construction alone. However, as Willemse (ibid.: 60) himself concedes, "a systematic account of possessive NPs needs to deal with both of these phenomena." This should ring especially true in light of my suggestion that the possessum nominal is non-referring by itself.

¹²Note that, what I will henceforth be referring to as the real world referent might conceivably also be a referent in a fictional or imagined world.

the context-specific use of the reference-point construction, which culls information from the surrounding co-text. It is the latter in particular which constitutes the focus of the present and the next chapter. Thus, while the above example shows that both types may operate autonomously, I will show in section 5.5.3.2 that their respective input is not always as straightforwardly distinguishable as it appears to be in the case of co-referential NPs.

Fundamentally, despite Willemse's different conception of how pre-nominal possessive NPs establish reference, both his and my own concern boil down to the identification of the entity denoted by the possessum noun, albeit in different ways. While Willemse is interested in its discourse status, which I will regard as its *construction-external* *identifiability*, I am concerned with its *construction-internal* *identifiability*. This refers to the possessive referent's real world identifiability, which, as I illustrated in Figure 5.4, results from the possessum entity's individuation via a salient possessor referent in a particular context. As Willemse himself admits, his account falls short of characterising this latter type. This is ultimately so because he fails to recognise that the real world and discourse identifiability of a possessive referent are a matter of the same underlying principles in the case of Bridging, Anchoring and Text reference, which is something I will demonstrate in section 5.5.3.2.

I will now spend some time teasing apart these two types of referent identifiability. After laying out in more detail how they differ, I will argue firstly that Willemse's commitment to their autonomy is questionable because it fails to consider the often complex interdependency between the discourse identifiability and the real world identifiability of the possessive referent. This concerns in particular those discourse statuses that refer to referents which are not *verbatim* given. I will argue secondly that this interdependency can be so intricate that a possessive referent's discourse status and the mechanism which gives rise to its real world identifiability cannot be distinguished in any systematic way.

5.5.3.1 Construction-external and construction-internal identifiability

To summarise briefly what I have demonstrated in the previous section, the possessive referent's construction-external identifiability is what I consider a 'measure' of its discourse status, i.e. the extent to which it is identifiable as a result of its activation in discourse. As we saw, Willemse's corpus investigation is not concerned with the relation which holds between the two nominal entities in a reference-point constellation. Rather, he investigates the discourse status of the possessum nominal "as it were 'independently' of it being linked up to a possessor entity within the possessive construction" (Willemse, 2005: 108). Thus, he is merely interested in the question of whether, say, the blue high-heeled shoes, irrespective of the fact that they stand in some salient relation to Carrie, are "referentially linked up with ((an) element(s) in the discourse in which [they] occur" (ibid.). In other words, Willemse's study deals with the identifiability status of the possessum entity *aside from* the relation which is established within

the reference-point construction, which in turn gives rise to the level of the *possessee* referent.

The term ‘external’, while not employed by Willemse himself, should make it sufficiently clear that the discourse status aids the identification of the possessive referent *externally*, i.e. regardless of the relation which serves to identify it *internally*. The following example (from *ibid.*: 112), which is similar to the example of co-reference we looked at earlier, should clarify this further:

- (87) [...] Her salvation was also a cause for celebration among the 60 volunteers and 12 staff who run Britain’s only national charity set up to find missing people. This Christmas, the runaway was one of 14,000 people on the charity’s computer database, which is housed in a spartan, donated office above a supermarket in East Sheen, southwest London. [...] A lot of adolescent girls aged around 14 and 15 do not get on with their parents. [...] Some fall prey to prostitution and others, among the most urgent on **the charity’s database**, become caught up in paedophile rings.

The discourse status assigned to the bold-faced possessive referent in (87) is one of co-reference because it has been previously introduced into the discourse as *the charity’s computer database*. The co-reference between the two possessive NPs makes the latter one externally identifiable in the sense that it was previously introduced into the discourse, allowing the addressee to establish mental contact with it as a discourse referent. By contrast, given the lack of a pointer such as ‘a night of romance between Garbo and Roland Gilbert’ that we saw in (86), the fact that the database is identifiable as a real world referent, i.e. as the database that is linked to the charity through a relationship of ownership, is a matter of world knowledge: we know of, or at least cannot exclude, the plausibility of a charity’s potential to own computer databases through which their records of missing people are managed. Crucially, however, it has nothing to do with the discourse status as such.

Thus, while Willemse is interested in whether or not a possessive referent is identifiable (as present or absent) in the discourse, he does not consider how it is individuated as a real world referent via its relation to the possessor. The construction-*internal* identification of the possessive referent is then a matter of picking out from a set of entities denoted by the possessum noun one salient entity which is relationally anchored to another entity and which individuates this entity in the real (or some fictional) world. For example, in the above, the phrase *the charity’s database* picks out from a set of databases only one salient database which stands in an ownership relation to the charity. This relation is established by means of the (linguistic) context, which gives rise to stereotypical considerations about charities. As I argued in section 5.5.1, it is at this level that referent identification takes place.

To illustrate this requirement for the presence of a discourse context, consider the NP *Peter’s tree*, which picks out from the set of trees one salient tree which stands in a particular relation to Peter, as in the following exchange:

- (88) A: Have you seen **Peter's tree** lately? It's grown immensely.
B: Which tree?
A: You know, the one he's growing in memory of his grandfather.

B, the conceptualiser, will not be able to establish mental contact with the target entity *tree* that A is referring to unless she knows the relation which holds between it and the reference-point *Peter*. In the absence of a default interpretation, B tends to require input from the linguistic context, as is present in A's second turn. If we substituted *tree* by *daughter*, as in (89), referent identification would presumably proceed on the basis of a default interpretation and without A having to explain explicitly what the salient relation is:

- (89) A: Have you seen **Peter's daughter** recently? She has grown immensely.
B: #Which daughter?
A: #You know, the one his wife gave birth to.

The responses by B and A in (89) respectively sound redundant and unnatural.¹³ It appears that, while certain target entities require more in the way of explicit contextual input (e.g. “the one he's growing in memory of his grandfather”) in order to be anchored plausibly to a possessor referent, others may not. This does not mean, however, that the reference-point construction alone is capable in such cases of doing all of the inferential work. As should have become clear from my discussion in Chapters 3 and 4, even in the absence of such explicit paraphrases, I assume that the context, broadly construed, plays a definitive role in the determination of the possessive relation. Example (89) represents a common case, where the impoverished context gives rise to considerations of what may be the most plausible relation between Peter and the salient daughter. In concrete communicative situations, any such candidate relation will subsequently feature in our representation of the possessive referent. Crucially, thus, we require the presence of context in order to be able to individuate the possessive referent (see Figure 5.4).

Prior to this discussion, I asked how addressees establish mental contact with a salient possessive referent despite the underspecification of the reference-point relationship. We are now in a position to verify that, aside from the possessive referent's discourse status, which facilitates its identifiability as a discourse referent, it is its construction-internal identifiability (as promoted by the linguistic context) which additionally facilitates its individuation as a real world referent. As I suggested in section 5.1, one way in which this may proceed is by means of referential chains. These establish associative links between the referent denoted by the possessive NP and other referents in the discourse. Out of Willemse's five discourse statuses, it is particularly the categories of Text reference, Bridging and Anchoring which establish such links. This

¹³B's question would be more natural if he did not know that A had had a daughter, but was enquiring about the *ontological* status of the daughter as opposed to the relation in which she stands to A, or indeed if it was known that B had more than one daughter.

suggests an interesting relationship between a possessive referent's discourse status and its real world identifiability, which I will now examine.

5.5.3.2 The relationship between construction-external and construction-internal identifiability

So far, we have seen that a possessive referent's discourse and real world identifiability do not necessarily stand in any significant relation to one another. From example (87) it was evident that, contrary to construction-external identifiability, construction-internal identifiability is not as direct an 'outcome' of the respective discourse status. Thus, while the co-reference between the two mentions of the charity's database secures its *external* identifiability, it does not contribute in any significant way to its *internal* identifiability. I therefore suggested, in line with Willemse, that complete referent identification boils down to a two-way process which subsumes both. How do the other four discourse statuses fare in this respect?

New

Similar to co-referential discourse referents, new discourse referents require additional identifiability mechanisms in order to be internally identifiable. For example, consider the following example (from Willemse, 2005: 76-77):

- (90) A doctor and a chemist who systematically defrauded the National Health Service with bogus prescriptions were jailed yesterday. The pair spent thousands of pounds on private school fees, cars and business ventures. Timothy Whitefield, 49, a GP, was sentenced to three years by Leeds Crown Court, and Bryan Samson, 53, to two for fraud during 1989 and 1990 amounting to £171,800. The court was told that the Leeds Family Health Service Authority is considering legal action to recover £1million from **the chemist's company**, Waycare.

Here, the discourse status has little to do with the real world identifiability of the possessive referent. Hypothetically speaking, if it did play much of a role, a new referent should make the identification process even more difficult (if not impossible), given that new referents do not partake in any referential chains at the point at which they appear in a stretch of discourse.

Instead, construction-internal identification is possible for discourse-new referents in the majority of cases: that is, unless they are introduced by NPs which fail to presuppose the salience of the possessive relation (see section 5.3.1). As I argued extensively over the last two chapters, this is promoted through addressee-dependent salience considerations of what constitutes the most likely relation between two entities. The difference between such NPs and those giving rise to internally salient possessive interpretations is illustrated by the following two examples (from Barker, 2010: 213-214; my emphasis):

- (91) A man came in. **His daughter** was with him.

(92) A man came in. ***His giraffe** was with him.

Barker claims that, despite the discourse novelty of the possessive referent denoted by *his daughter*, it is felicitously introduced as a new discourse participant. On the other hand, *his giraffe* does not achieve this. According to Barker, the lexical/pragmatic dichotomy naturally explains the difference in acceptability in the above example inasmuch as only lexical possessives may serve as felicitous first-mentions. *Contra* Barker, and in a similar vein to Vikner & Jensen (2002), Willemse (2005: 80) argues that even pragmatic possessives felicitously introduce novel discourse referents:

“Consider a similar example in which the head noun of the possessive NP is not a relational noun and in which the context, as far as I can see, does not make the relation between man and briefcase particularly salient, but in which the possessive NP *his briefcase* cannot be said to be infelicitous:

- (93) (a) A man walked in.
(b) His briefcase looked heavy.

In this example, the possessive NP does introduce a new referent even though it does not, as far as I can see, satisfy Barker’s condition that possession relations must be salient.”

This suggests that discourse novelty is only problematic for the identification of the possessive referent if we are dealing with ‘non-salient’ relations – say, one between a man and a giraffe. However, the odds for these to be first-mentions are presumably very slim, and examples such as (92) sound somewhat contrived. The fact that even non-relational nouns can feasibly serve as first-mentions can then also explain why it is straightforward to work out the relation between the company and the chemist in example (90). The relation may be particularly salient in spite of the fact that it was not previously introduced, or even explicitly mentioned, in the discourse. Generally speaking, whatever the relation, it seems to rely on mechanisms *other than* the discourse status to render the possessive referent identifiable. In other words, while some possessive NPs evoke possible relations on the basis of the extra-linguistic context, others, such as *his giraffe* in (92) and *Peter’s tree* in (88), may rely more on the linguistic context.

As far as Willemse’s distinction between a possessive referent’s discourse identifiability and its real world identifiability is concerned, the New category certainly reaffirms its validity. Much like for the Co-reference category, I would even go so far as to say that these are, for the most part, entirely separate matters. Referential identification thus proceeds at an earlier stage in the case of co-reference, and has to be established by other means in the case of truly novel discourse referents. However, things are considerably less straightforward in the case of the other three discourse statuses, i.e. Text reference, Bridging and Anchoring. These fall between

the standard dichotomy of given vs. new discourse referents and appear to conflate the two types of identifiability.

Text reference

As mentioned in section 5.5.2, text reference is a type of reference traditionally limited to the pronoun *it* and the demonstratives *this* and *that* (Halliday & Hasan, 1976) to refer to non-linguistically encoded participants in the discourse, e.g. “This is ridiculous!” to refer to and sum up an extra-linguistic state of affairs. Willemse extends the concept of text reference to possessives, which can equally act as a linguistic means to summarise some state of affairs, as in (94):

- (94) One BAE insider said last week that there could be no formal discussions until Daimler and the Dutch government had resolved the problems of Fokker, the ailing short-haul aircraft maker that will collapse unless it receives an emergency cash injection of almost £1.4 billion. [...] But **Fokker’s crisis** is only one contributor to the problems of Daimler-Benz Aerospace [...]

Here, the possessive phrase *Fokker’s crisis* refers back to and summarises what was previously said about the problems faced by Fokker. As Willemse (2005: 116) notes,

“[...] a possessive NP realizing text reference not only refers back to a preceding stretch of discourse, but also involves the active construal of a text referent in the sense that it categorizes and ‘labels’ the text it refers to.”

Furthermore, “text reference involves a fair amount of inferencing on the part of the addressee” (ibid.: 118), which is strongly reminiscent of the inference work which is involved in the construction-internal identification of the crisis. Let me explain this in more detail.

The construction-*external* identification of the crisis is achieved through a referential link between *will collapse unless it receives an emergency cash injection of almost £1.4 billion* and *Fokker’s crisis*. In that sense, text reference is similar and on Willemse’s continuum of discourse statuses directly adjacent to co-reference, the only difference being that text referents are typically an alternative way of saying the same thing, without however ‘repeating’ it, as in co-referential chains of NPs: the antecedent referent in text reference chains is usually not a nominal entity. What is important to note is that this construction-external identifiability also to a certain extent warrants, or at least supports, its construction-internal identifiability. In other words, we can safely assume that *Fokker’s crisis* denotes the crisis the company is going through in light of the mentioned unresolved problems. This undergoer relationship is, of course, promoted by the linguistic context which serves as the antecedent to the referent denoted by *Fokker’s crisis*.

To see another example of this, consider again example (82), repeated here as (95):

- (95) Thanks to the federal prosecutor in Munich, compuserve subscribers no longer have access to 200 dubious and distinctly sad Internet newsgroups catering for people who think sex is an activity that can be pursued through a mouse and a modem. The Germans, in a fit of prudishness, told compuserve it would be prosecuted if it did not stop allowing their citizens to leapfrog through the commercial service into the Internet which is quite beyond the company's control and read the poison on their pcs. Because compuserve is an international network, it had no option but to pull the 200 offending newsgroups from its entire world subscription base of 4m users. **The prosecutor's decision** was plain stupid.

Here again, the underlined context represents the antecedent material which establishes the NP *the prosecutor's decision* as a discourse referent as well as a real world referent. It is not systematically possible to define which part of this material is responsible for the actualisation of the former, and which for the individuation of the latter. Construction-external and construction-internal identifiability mechanisms therefore seem to conflate in text-referential NP chains, with the NP's construction-external identifiability rendering it identifiable construction-internally.

Bridging

An even stronger argument can be made for the categories Bridging and Anchoring, which likewise appear to conflate the two. Notably, Bridging is defined as "indirect referent retrieval" (Willemse, 2005: 96; see also Martin, 1992), i.e. as an associative link between two discourse referents where the identity of one can be inferred by means of the other. In (96) below, despite *the lounge* strictly speaking constituting a novel discourse referent, the use of the definite determiner can be explained by means of the association between the referent denoted by *the house* and its parts. This stems from the fact that these parts are typically already semi-active in the addressee's consciousness at the point at which the house is introduced into the discourse. The newness of the lounge thus appears somewhat reduced.

- (96) John bought a new house. **The lounge** is especially beautiful.

Much like Text reference, Willemse shows that bridging extends to possessives (see also Löbner (1998)). For the purpose of our discussion, let us consider example (77) again, repeated here as (97)(a). While this example contains the use of a possessive pronoun to render the association between the book and its pages explicit, the use of the definite description in the (b) equivalent is just as felicitous due to the strong association between books and their pages:

- (97) (a) As she sprang to her feet and ran to Alistair, the book fell to the floor, face downwards, **its pages** doubling up in disorder. [CB]
 (b) (...) the book fell to the floor, face downwards, **the pages** doubling up in disorder.

With respect to the identifiability of the referent of *pages*, its construction-external identifi-

cation proceeds on the basis of the book's introduction into the discourse. To warrant its actualisation as a discourse referent, a fair amount of world knowledge is needed in order to determine the part-whole relation between books and pages which is needed to justify their association in the first place. Arguably, however, this part-whole relation, which is retrievable through a bridging inference and which establishes the pages as a new discourse referent, *simultaneously* warrants their construction-internal identifiability as pages which are meaningfully linked to the book in question. In other words, it is the same phoric relationship between the book and the pages which renders the possessive referent identifiable as a real world referent. The strong interdependency between construction-external and construction-internal identifiability is thus evident also in the case of bridging anaphora.

Anchoring

Finally, another case in point is the Anchoring category, which frequently subsumes inalienable relationships, e.g. between a human being and his/her body parts, or close alienable relationships, e.g. between a human being and his/her clothes. Anchoring is at first sight similar to bridging in that “[i]t contains cases in which there is partial non-newness of the possess[ive] referent based on an inferential, but non-bridging, relationship with the preceding discourse” (Willemse, 2005: 126). The main difference lies in the term ‘non-bridging’, which refers to the fact that “the use of the definite article to introduce the possessee into the discourse is only marginally possible” (ibid.). This, in turn, leads Willemse to conclude “that identification is not possible to the same extent as for a bridging relationship” (ibid.). The use of the definite article for anchoring relationships is, however, not *systematically* excluded. For instance, Willemse contrasts the following examples:

- (98) (a) She is on sick leave because she has broken her leg.
(b) *She is on sick leave because she has broken the leg.
- (99) (a) The burglar hit John on the head with a baseball bat.
(b) She took me by the hand and led me to the study.

In (99), the use of a definite article to refer to body parts is perfectly acceptable, albeit perhaps somewhat idiomatic. In this respect, and because it also maintains an inferential relationship with the preceding discourse, Anchoring and Bridging are near identical, the main difference being that anchored referents cannot always be introduced by the definite article, contrary to bridged referents. Despite this formal difference, the close interdependency between construction-internal and construction-external identifiability is then as apparent in the case of anchoring relationships as it is in the case of bridging relationships.

By way of association, the phoric relation between e.g. *book* and *pages* or *John* and *head* warrants *both* types of identifiability. In short, through ‘anchoring’ a given possessum entity to its possessor, say a leg to its owner, it is not only possible to activate a seemingly new

discourse referent within a stretch of text, but crucially also to enable the hearer to establish the construction-internal relationship between the two by rendering the underlying real world referent salient. Both processes appear to function in unison, so that bridging and anchoring relationships alike should be construed as warranting both types of identifiability.

It is for the above reasons that I agree with Willemse only partially when it comes to the plausibility of investigating the possessum nominal as a discourse referent independently of the way in which it provides access to an underlying real world referent. As a compromise I suggest that, while this may well be plausible for the categories Co-reference and New, the two are near-epiphenomenal in the case of Text reference, Bridging and Anchoring.

The emerging picture thus appears to be rather mixed. On the one hand, the discourse referential activation of the entity denoted by the possessum noun may *promote* its real world identifiability, as is the case with Text reference. An even stronger influence of its discourse status is at play in the case of Bridging and Anchoring, where both types of identifiability seem to conflate. On the other hand, new referents are frequently internally identifiable without having been introduced into the discourse, and so by definition ought to rely on construction-internal identifiability mechanisms. Possessive referents which are co-referential with a previously mentioned entity exhibit the same tendency. Even if the relationship which holds between them has not been explicated in any obvious way, they can often still be interpreted, which likewise suggests that identifiability mechanisms other than those triggered by the possessum noun's discourse status are at play.

5.5.4 Interim summary: which role does the linguistic context play in the addressee's determination of the possessive referent?

Let me now briefly take stock. At the beginning of this chapter, I suggested that the question of how salient possessive *relations* are determined is directly related to the question of how salient possessive *referents* are determined. This, I argued, constitutes the addressee's communicative reason for selecting one possessive relation over another. I then established over the course of this chapter that addressees assign reference to a referentially indeterminate possessum noun by establishing mental contact with one salient instance from the class of entities it describes. This is the entity which stands in a contextually salient relation to another entity, the possessor referent, through which it is conceptualised (Langacker, 1991, 1993, 1995; Taylor, 1996). The identification of this referent then proceeds on the basis of its location within a stretch of discourse, as well as its individuation as a referent in the real or imagined world. While Langacker's reference-point analysis provides interesting insights with respect to this process, I suggested that it falls short of characterising the precise ways in which reference is established on the basis of the *context-specific* constellation of a possessor and a possessum entity. I thus

asked in what ways the linguistic context enables the addressee to profile a salient possessive referent. In an attempt to answer this question, I demonstrated by means of numerous examples that its individuation as a real world referent is frequently epiphenomenal of its actualisation as a discourse participant. In particular, the discourse statuses Text reference, Bridging and Anchoring conflate notions of construction-external and construction-internal identifiability. The overall picture may be summarised as in Table 5.2:

Discourse status	Construction-external identifiability	Construction-internal identifiability
Co-reference	Yes	Yes/No
New	No	Yes/No
Text reference	Yes	Yes
Bridging	Yes	Yes
Anchoring	Yes	Yes

Table 5.2: Discourse status and possessee referent identifiability

At the stage at which the possessive referent is introduced into the discourse, it is externally identifiable unless newly introduced. This external identifiability guarantees its internal identifiability in the case of Text reference, Bridging and Anchoring given that they conflate these two types. In the case of Co-reference and New, the real world referent denoted by the possessive NP may or may not be identifiable. This is, however, to a large extent dependent on whether or not it evokes possible interpretations on the basis of salient information evoked by the linguistic and/or the extra-linguistic context, as evidenced by the difference in interpretability between e.g. *his daughter* and *his giraffe*.

5.6 Conclusion

This chapter has provided us with several qualitative insights as to the role of the linguistic context in the determination of *salient*, as opposed to merely *possible*, possessive relations. It has also demonstrated how, by adopting a discourse-analytic perspective, we end up with a fuller picture of how pre-nominal possessive NPs work in context. To recapitulate, I discussed in particular the following concepts:

Possessive referent:

The salient referent which is individuated *via* the combination of a particular context with the schematic reference-point mechanism, which construes a salient possessum entity as anchored to a salient possessor.

Discourse status:

The way in which the possessive referent construction-externally maintains a relationship with the previous discourse.

Construction-external identifiability:

The degree to which the possessive referent is identifiable as a discourse entity which is linked (or not) to other discourse entities as a result of its discourse status.

Construction-internal identifiability:

The degree to which the possessive referent is identifiable as a real world referent *via* the reference-point relationship it maintains with the possessor referent in a given context.

Given their function as referring expressions, I asked to what extent the search for a salient possessive relation is guided by the search for a salient possessive referent. According to the dominant stance (e.g. Gutzmann, 2010), these two search processes are in fact epiphenomenal. This led me to consider the question of how interlocutors so effortlessly succeed in establishing reference with a salient possessive referent despite the fact that the reference-point mechanism underlying their interpretation is severely underspecified. I argued that, to bridge the gap between a) the schematic output of this mechanism, which profiles a number of candidate referents on the basis of a contextually established dominion, and b) a referentially determinate possessive NP, the presence of naturally occurring discourse is required. In particular, the role of the linguistic context, which forms part of the utterance context, is to individuate and actualise a possessive referent both in terms of its construction-external identifiability as a discourse referent and as its construction-internal identifiability as a real world referent.

In order to allow for a more representative picture of what possessive interpretation amounts to, I then reformulated the reference-point relationship to accommodate this requirement for contextual explication. On this basis, I considered one of the ways in which the linguistic context may contribute to a referent's discourse and real-world identifiability by considering how possessive referents may enter associative relationships with other referents through referential chains of two or more NPs. While Willemse's (2005) study established a complex array of discourse statuses that a possessive NP may assume as part of such chains, it fell short of recognising the complex interdependency between certain discourse statuses and the way in which possessive referents are individuated as real world referents. In particular, the discourse statuses Text reference, Bridging and Anchoring displayed interesting tendencies with regard to how both types of identifiability mechanism conflate.

To conclude, and to give a partial answer to the question of how salient possessive relations

are determined, the linguistic context frequently profiles a salient possessive referent by means of establishing associative text-referential, bridging and anchoring relationships that it enters into with other discourse referents. If the addressee's determination of the possessive relation really is contingent upon her determination of the possessive referent and *vice versa*, we should by now have acquired an interesting picture of how it works in communication. And yet, even though this picture furthers our knowledge of possessive interpretation, it should have become equally clear that mechanisms promoting the real world identifiability of the possessive referent can also differ from those promoting its discourse identifiability.

We therefore still know little about the ways in which information *other than* the discourse status may help the addressee in determining salient possessive relations. This means that, in order to be able to characterise the role of the linguistic context better, we are faced with the task of finding sufficiently objective ways to characterise these 'extra' pieces of information. I demonstrate how this can be achieved by means of corpus-linguistic techniques in the next chapter.

Chapter 6

A corpus investigation of pre-nominal possessives in context

6.1 Introduction

In the previous chapter, I introduced a number of concepts relevant to the analysis of pre-nominal possessives in natural language contexts. I discussed construction-external and construction-internal identifiability mechanisms which enable the addressee to establish mental contact with a possessive referent and, thereby, to determine salient possessive relations. I argued, amongst other things, that the two types of mechanisms frequently converge, and illustrated through numerous examples that this holds particularly for the discourse status categories of Text reference, Bridging and Anchoring. First and foremost, this discussion highlighted the importance of investigating the role played by the linguistic context in possessive interpretation.

However, as yet, we have only considered individual examples and are lacking a comprehensive picture of the ways in which construction-internal mechanisms in particular operate to render certain possessive relations salient. What is more, we still know little about how the linguistic context more generally, i.e. aside from promoting associative conceptual linking of NP referents by means of what I referred to as referential chains, contributes to the construction-internal identifiability of the possessive referent. Therefore, my concern in this chapter will be on what (other) kinds of information may be found in the linguistic context that help the addressee in selecting a certain possessive relation over other possible ones.

Against this background, this chapter presents a large-scale corpus study of 2,889 pre-nominal possessive tokens which were investigated with respect to the type of contextual support they receive. While the compositional aspect of possessive interpretation has been discussed in some detail in Chapters 3 and 4, the linguistic context constitutes a variable which has hitherto not been systematically examined. As such, it presents an interesting challenge for both quantitative and qualitative analysis.

The primary aim of the corpus study is to provide an empirical investigation into the various ways in which the context surrounding a pre-nominal possessive NP contributes to the real world identifiability of the possessive referent. The study simultaneously addresses the second premise of the argument from interpretation, which I will now outline and discuss in more detail before presenting the central questions I seek to answer in this chapter.

6.1.1 Pre-nominal possessives and contextual explication

The second premise of the argument from interpretation, repeated below, is directly concerned with the degree to which different types of pre-nominal possessives require contextual support in order to be interpretable. In brief, it suggests that possessive NPs containing possessum nouns belonging to lexical and pragmatic interpretation groups respectively require different amounts of contextual explication in order to be interpretable.¹

The second premise of the argument from interpretation:

Contextual explication, i.e. the way in which the linguistic context renders the possessive relation explicit, is needed for the interpretation of some possessives, but not of others.

A direct consequence of the first premise, which predicts the availability of default interpretations for lexical, but not for pragmatic possessives, the second premise suggests that possessive NPs falling into the lexical group should not require contextual support, whereas those that fall into the pragmatic group should. This idea is directly related to the idea that lexical possessives profile an ‘internally salient’ possessive relation.² To contrast the effects of such internal salience, consider again the contrast in interpretability between lexical and pragmatic possessives:

- (100) The other week Peter was competing in a painting competition where participants were invited to paint pictures of the cosmos. At the end of the day, the jury agreed that **Peter’s moon** was rather delightful and awarded him the prize money.
- (101) I spoke to **Mary’s mother** recently and she was quite happy to be transferred to a different bedroom.

Quite clearly, while contextual support is needed in (100) to render the possessive NP interpretable, this is less obvious in (101), given that *Mary’s mother* gives rise to a kinship relation in the absence of evidence to the contrary. Similar to my empirical investigation of the first premise, it will be necessary to investigate the degree to which different interpretation groups receive contextual support (or not).

¹See section 2.1.2 for an initial discussion of this idea.

²See Barker (2010), and my discussion in section 5.5.3.2.

6.1.2 Central questions and outlook

Taking steps towards a more comprehensive picture of possessive interpretation, the present study investigates the different ways in which possessive relations are rendered salient by the linguistic context. In doing so, I will consider not only explicit verbal paraphrases of salient relations (cf. Vikner & Jensen, 2003, 2004), but also some of the more implicit pointers contained within the context that are linguistically observable. Methodologically, the study is based on Vikner & Jensen's corpus study, which I discussed in section 5.3.2. It addresses its shortcomings by applying a broader notion of context to the analysis of the corpus data. Furthermore, it expands its methodology by rendering contextual support into a quantifiable variable. In this regard, and to my knowledge, the present study represents the first of its kind to put forward an operationalisation of the linguistic context and the way it may be investigated from a quantitative point of view. It does so by operationalising tangible features of the linguistic context which are relevant in the determination of the possessive relation.

The central questions to be addressed on the basis of the quantitative evidence are as follows:

1. Which role does the linguistic context play in the determination of salient possessive relations?
2. Do pre-nominal possessive phrases falling into lexical and pragmatic interpretation groups show a significant difference in the way in which the salient possessive relation is explicated by the linguistic context?

Both questions are directly concerned with the second premise of the argument from interpretation. This gives rise to the following empirically testable hypothesis:

Working hypothesis:

Lexical possessives, by virtue of giving rise to semantically encoded default interpretations, should reflect less contextual support than pragmatic possessives.

In anticipation of the more concrete evidence, the results indicate that this hypothesis is only partially confirmed. Overall, there is no significant difference in the presence of contextual support between pragmatic possessives and lexical possessives belonging to the Control, Producer and Part-whole groups. The only group which is significantly different is the Inherent group, which reflects the least amount of contextual support. Furthermore, the quantitative data shows a complex picture of varying degrees of contextual support for possessive NPs falling into the same interpretation group: while it may be present in some, it may be absent in others.

The chapter is structured as follows. In the next section, I present a working definition of the notion of context whilst anticipating one of the central issues relevant to any empirical

investigation of contextual support, namely its potential variability with respect to individual tokens. In section 6.3, I present the corpus study and provide a detailed description of the coding system which was used to code all 2,889 tokens. Subsequently, in sections 6.4 and 6.5, I present and discuss the results of the study in light of the above questions and their consequences for the theoretical argument. Section 6.6 sums up the evidence in preparation for the theoretical account of salient possessive interpretations in Chapter 7.

6.2 A working definition of context

In Chapter 4, I adopted a relevance-theoretic view of context, according to which it is both emergent, i.e. ever-changing and adjustable, and extends beyond the linguistic co-text. In other words, context is not a tangible entity that may be exhaustively defined by a set of characteristics. This is problematic from the viewpoint of an *empirical* investigation because we require a working definition which operationalises certain features of the linguistic context that are observable in natural language data. Of course, such data are usually unannotated for pragmatic factors when they appear in linguistic corpora. This is particularly true of world knowledge and speaker meaning which may be involved in the correct interpretation of context-sensitive expressions.

Given the complex issues surrounding the process of utterance interpretation that I briefly touched upon in section 4.3.1.3, I will not be concerned with the question of how to exhaustively operationalise world knowledge or other types of knowledge which may be involved in the determination of the possessive relation. This suggests that the only viable option to investigate context in any systematic way is to limit ourselves to textually observable sub-phenomena of everything it may comprise. We therefore need to consider what e.g. Stalnaker (1999: 35) and Bach (2005: 21) refer to as “other speech acts that have been performed in the same context” and “what has just been said/referred to”, respectively: that is, the linguistic *co-text*. As operationalised by Janney (2002: 458), the co-text manifests as

“the immediate linguistic environment in which a unit of discourse of momentary interest to an interpreter (a word, phrase, utterance, set of utterances) occurs and is interpreted in a discourse sequence.”

Importantly, as workable as a delimitation of context to co-textual pointers may seem for the purpose of a corpus investigation, it will necessarily fall short of giving us the whole picture of contextual input that plays into the determination of salient possessive relations. Arguably, what the co-text provides us with is merely a conceptual schema of some kind, a background story, as it were, which allows us to make further inferences in the direction of the salient possessive relation. So, while the co-text frequently provides meaningful ‘cues’, it does not obviate the

need for the addressee to resort to further inferential enrichment based on considerations of stereotypicality and/or world knowledge in order to establish the full context within which the possessive relation can be inferred.

A restriction to the co-text surrounding the NP will then merely be able to characterise the different kinds of cues that are contained within it, but not the exact kind, or indeed all of the information which feeds into the process of inference generation. This, I believe, is not the kind of information which is amenable to systematic theorising. Consequently, while Janney's definition is helpful in giving us a tool to delimit the range of context contributing to the interpretation of pre-nominal possessives (and utterances more generally), it does not exhaust the kinds of contextual support mechanisms that are required in possessive interpretation.

This also means that a restriction to the co-text is still too broad to provide us with any meaningful results. What we need is an operationalisation of the co-text itself. My aim will therefore be to capture a number of linguistic cues contained within the linguistic co-text which I will henceforth refer to as *pointers*. I define pointers as overt linguistic material by means of which possessive relations are either directly or indirectly explicated. Unsurprisingly, the main issue which arose prior to the coding of the corpus data was how to isolate distinct pointer categories. In order to devise a plausible coding system, I carried out an initial qualitative analysis of approximately 100 corpus tokens. This revealed that, in the majority of cases, the co-text contained distinctive linguistic features. These consisted of explicit predication that directly paraphrases the salient relation (e.g. *built the ship* surrounding *his ship*), more implicit predication which entails a particular relation (e.g. *took off his tie* surrounding *his tie* to entail that the male referent in question was wearing the tie), and information contributing to a particular contextual scenario or frame, similar to cases of bridging anaphora as discussed by Löbner (1998) and Willemse (2005).

Pointers thus take various forms, the details of which I describe in detail in section 6.3.2.3. They are further defined as providing cues as to the salient relation which holds between the possessor and the possessum. Viewed in this light, they might be characterised as inference triggers. The emphasis here is on the word *triggers*. As I have been arguing throughout this thesis, the process of inference generation is complex and draws on a multitude of factors not exhausted by the lexical semantics of the possessum noun. Pointers in the linguistic co-text may then constitute but one small cue as to the speaker-intended interpretation. Importantly, my use of the phrase *contextual support* in the present chapter will be restricted to the support offered by co-textual pointers. It is crucially *not* meant to capture all facets of the inferential effort the addressee is put to when faced with possessive reference resolution. At the same time, however, it is considerably broader than Vikner & Jensen's, which I consider as part of the next section.

6.2.1 The variability of contextual support

To foreshadow one of the central issues that will be important for the empirical investigation, I will now briefly discuss a consequence which falls out from the fact that context, construed along the lines of Sperber & Wilson (1986/1995), is somewhat ‘unwieldy’ and erratic in nature and may be needed to varying degrees in order for the addressee to make sense of speaker meaning.³ This consequence concerns the variability of contextual support. Not only, as we will see in section 6.3, does the information which renders possessive relations more or less salient take different shapes, but the tendency for lexical possessives to yield salient interpretations in the *absence* of explicit linguistic context does also not exclude the possibility for these to be *supported* by the linguistic context.

Put differently, while lexical possessives are intuitively interpretable without explicit contextual support, they may equally well receive such support in favour of a salient interpretation which is already present on other grounds.⁴ This possibility has also been acknowledged by Vikner & Jensen (p.c.). They give the following example from a news report on Ismay, the president of the company that built the Titanic. They suggest that the producer interpretation of *his ship* in (102) is clearly supported by the linguistic context through the explicit verbal paraphrase *built the Titanic* at the beginning of the paragraph.

(102) **J Bruce Ismay: doomed the moment he jumped ship**

The man who built the Titanic lived for ever in disgrace after fleeing the stricken vessel. [...] By the end of the week, when the Titanic survivors were ashore, everyone knew who J Bruce Ismay was: he had become, as a headline in the Daily Mirror put it, “The most talked-of man in all the world”. “Mr Ismay cares for nobody but himself,” declared one American paper. “He passes through the most stupendous tragedy untouched and unmoved. He leaves **his ship** to sink with its powerless cargo of lives and does not care to lift his eyes. He crawls through unspeakable disgrace to his own safety.”⁵

The possibility of explicit contextual support being present in lexical possessives raises the question of whether the second premise is a good diagnostic for the distinction between lexical and pragmatic possessives in the first place when, on closer inspection, the dividing line might turn out to be significantly blurred. However, even though contextually supported lexical interpretations might at first sight put them on a par with pragmatic possessives, and thereby render the diagnostic unusable, Vikner & Jensen maintain that contextual support of this kind

³See my discussion of these issues from the point of view of token- and speaker-dependent default interpretations in Chapter 4.

⁴As I have argued extensively in Chapters 3 and 4, salient interpretations arising in the absence of explicit context are a result of strongly activated background assumptions which are brought to bear in the token-level interpretation of pre-nominal possessive NPs.

⁵As retrieved from <http://www.telegraph.co.uk/culture/books/8677437/Titanic-builder-J-Bruce-Ismay-doomed-the-moment-he-jumped-ship.html>

does not turn lexical interpretations into pragmatic ones. They (p.c.) argue that,

“[w]hat may be confusing here is that salience suddenly interferes with the semantic/pragmatic distinction. This can be sorted out, we think by saying that the semantic/pragmatic distinction is independent of salience, and salience is brought about by context. [...] Salience, which is not a component of our theory, may apply to semantic as well as pragmatic interpretations, selecting on contextual grounds among the interpretations which are already in principle available. In the Titanic text above, the role of the context then is to make salient the producer interpretation of *his ship* over the other theoretically possible control relation. In the Auster text with *the deaf-mute’s pen* we see a pragmatic interpretation (‘the pen bought from the deaf-mute’) made salient by several items of information culled from various places in the textual context [...].”

Under this conception, salience is not a feature of the lexical vs. pragmatic distinction, which is drawn on the basis of the two premises of the argument from interpretation, but of context. As I have argued, however, salience cannot be treated as independent of the lexical vs. pragmatic distinction since the determination of *possible* interpretations is as much a matter of contextualised interpretations as the determination of salient ones. This is so because no interpretation takes place against a vacuum or is free from the influence of contextually dominant assumptions.

Vikner & Jensen clearly demonstrate sympathy for this view when noting that “salience is brought about by context”. Given that the question of how certain relations are rendered salient undeniably requires appeal to context, this should not be surprising. The main difference between my own and Vikner & Jensen’s view then lies not so much in the question of whether salience considerations matter in the determination of the possessive relation. This question can, I believe, only be answered in the affirmative. What is at issue, all other things being equal, is their definition of ‘context’: for Vikner & Jensen, context is practically non-existing when the possessive phrase appears in isolation, and so evidently reduces to explicit paraphrases of the possessive relation. My own definition, which is in line with the relevance-theoretic view, comprises a considerably wider array of factors which play a role in the interpretation of utterances both in context *and* in isolation. Under this view, null contexts and ‘full’ contexts mainly differ in the degree to which it is the overt linguistic material, as opposed to salience effects arising on the basis of the extra-linguistic context (e.g. frequency and stereotypicality effects), which renders a possessive relation explicit. The pragmatic or contextualised nature of the process, however, is the same in both cases.

Given their definition of context, Vikner & Jensen are not concerned with knowledge arising from salience considerations promoted by the extra-linguistic context, let alone more implicit clues such as the possessive referent’s discourse status. The decision to disregard these complexities in light of the lexical vs. pragmatic distinction is certainly a useful step in maintaining

clear identification criteria for the two groups. It nevertheless also suggests that, when considering pre-nominal possessives in their natural language contexts, the distinction may turn out to be less clear-cut than the second premise might predict.

These differences aside, contextual support of lexical possessives should not be surprising, given that discourse is usually coherent and so should, amongst other things, clarify the relationships which hold among discourse entities. The ship example above clearly illustrates this. The referent denoted by the NP *the man* is introduced explicitly as the producer of the referent denoted by the NP *the Titanic*. The contextual explication of possessive relations is then only one of many ways in which discourse coherence is maintained. Whether or not the fuzziness that might be expected to fall out from this undermines the theoretical feasibility of using the second premise of the argument from interpretation as evidence for the lexical vs. pragmatic possessive taxonomy is something I will come back to in section 6.5.

6.3 The corpus study

6.3.1 Data set

6.3.1.1 Original data set

The original data set comprised a total of 3,000 pre-nominal possessive tokens which were extracted from the British National Corpus (BNC). The overall token number was compiled from the following subsets:

NP type	Number of tokens
<i>my</i> + N	500
<i>his/her/its</i> + N	500
<i>their</i> + N	500
<i>your</i> (sg./pl.) + N	500
<i>our</i> + N	500
Genitive NP + N	500
TOTAL	3,000

Table 6.1: Distribution of NP types in original data set

The 500 tokens for each NP type were selected based on a reproducible thinning of the overall query hit set to a total of 1,000 tokens. Of these, the first 500 tokens which did not fall into the below categories were included in the coding:

- a. fixed expressions, often prepositional or verb phrases, (e.g. *set in her ways*, *at their peril*, *(a roof) over my head*, *lose your way*, etc.)

- b. classifying genitives (e.g. *a man's face, a women's magazine*)
- c. appellations (e.g. *your reverence, my Lordship*)
- d. possessive tokens which formed part of a book/film title or a poem

The primary reason these tokens were excluded is because their possessive referent is not usually actualised, i.e. it does not partake in the referential chains that are established within the respective stretch of discourse (see also Willemse, 2005: 110). For example, the NP *her way* in (103) does not have an externally identifiable referent:

(103) If Laurie noticed she chose not to comment, but she was curious in her way.

6.3.1.2 Final data set

Following the coding of the original data set, I further excluded tokens whose respective pre-nominal possessive phrase remained 'uninterpretable'. In other words, NPs for which the surrounding co-text contained no explication of the possessive relation and which were not interpretable via some kind of default mechanism were not taken into consideration. The below is an example:

(104) [...] But the other merely advanced, and when he came up, put out a hand to touch the lady, whereupon **our hero** struck with all his might at his heart, and the glass splinter entered deeply and he fell to the ground. And behold, he shrivelled and withered under their eyes, and became a small handful of grey dust and glass powder. Then the lady wept a little, and said that the tailor had now twice saved her, and was in every way worthy of her hand. [...] (APR 1534)

It is clear neither from the quoted co-text nor from the remaining 500 word co-text what the precise relation between the possessor and the possessum nominal might be: it remains doubtful at best. I systematically excluded such tokens in order to warrant greater representability of interpretation groups and the ways in which they are contextually supported through pointers.

The final data set which was submitted to statistical analysis comprised a total of 2,889 tokens. It consists of the following subsets:

NP type	Number of tokens	Final count
<i>my</i> + N	500	484
<i>his/her/its</i> + N	500	486
<i>their</i> + N	500	491
<i>your</i> (sg./pl.) + N	500	478
<i>our</i> + N	500	480
<i>Genitive NP</i> + N	500	470
TOTAL	3,000	2,889

Table 6.2: Distribution of NP types in final data set

6.3.2 Coding scheme

All tokens were coded with respect to the following two variables:

- a. interpretation group (following Vikner & Jensen, 2002, 2003, 2004)
- b. co-textual pointer

6.3.2.1 Co-textual range

The coding was limited to a 500 word co-text preceding, and up to a 100 word co-text following the token in question. The latter accounts for cases of cataphoric reference, such as:

- (105) ‘I don’t know who you think you are,’ she began, deciding to take the initiative, ‘but I can tell you that my father won’t be at all pleased with **your attitude**. You’re rude, you’re insulting, and quite frankly I won’t tolerate it.’ (B06 74)
- (106) It was winter and the weather was wet and cold and **our life** was hard; we survived only on hand-outs from the parish. (CDM 2173)

In (105), the underlined material elaborates on the referent of *your attitude* by indicating the relation between the possessum and the possessor (‘you *are*...’ = ‘the attitude you display’). Similarly, the predicate *survive* in (106) makes it sufficiently clear that the interpretation is relational in nature: the referent of *our life* refers to the life of the possessor rather than the life of somebody else which the possessor stands in some salient relation to. In the following, I give a detailed description of each variable and its subcategories.

6.3.2.2 Interpretation group

Generally, all tokens were coded for their specific interpretation within the context at hand. For example, an NP such as *Mary’s cake*, which may ‘by default’ fall into the Producer group, was coded as receiving a control interpretation if Mary was simply eating the cake but had not made it. The below interpretation groups thus refer to interpretation types rather than tokens, and

were frequently applied to tokens which may have been expected to fall into a different group based on considerations of type defaultness. Whilst intuitive for the most part, I will now briefly explain how I coded for each interpretation group.

i. Agentive (Producer)⁶

The Agentive group subsumes artefact-denoting possessives, e.g. *John's snowman*, *Mary's cake*, *Peter's dissertation*, and so forth. It further subsumes 'conceptual' artefacts, such as ideas, theories, language, etc.

ii. Control

The Control group characterises possession in its broadest sense, subsuming all 'control-lable' entities. On the notion of control, Vikner & Jensen (2004: 11-12) suggest that "the prototypical controller is a human being, but sometimes animals may also be conceived of as controllers, cf. *the dog's ball*, *the owl's tree*." The possessum equivalent to controllers are controllees, or what I referred to as controllable objects in section 3.2.1.

iii. Inherent

The Inherent group subsumes all inherently relational nouns (e.g. *mother*, *partner*, *spouse*, *weight*), as well as event and state nominalisations which inherit their argument structure (e.g. *warmth*, *destruction*, *loyalty*, *courage*). Furthermore, possessives with time-denoting possessors (e.g. *yesterday's newspaper*, *this week's meeting*, *tomorrow's contest*) were included in this category. This is in line with Vikner & Jensen's (2004: 13) analysis, who

"assume that the argument structure of all eventuality-denoting items contain an argument for the temporal trace, and that the genitive semantics is able to make the referent of NP1 provide this argument, thus yielding a particular kind of inherent relation interpretation."

I will discuss a number of issues pertaining to the coding of Inherent tokens in section 6.5.1.

iv. Part-whole

The Part-whole group includes body parts (human and non-human), parts of inanimate entities (*the cliff's edge*, *the car's boot*), as well as tokens containing region-denoting possessors. The latter may subsume possessors denoting habitats (e.g. *garden*, *lake*, *island*) and social regions (e.g. *city*, *continent*, *country*, *island*, *region*, *state*). These may combine with possessum nouns denoting inhabitants such as plants and animals (cf. Vikner & Jensen, 2004: 14-15).

⁶Vikner & Jensen (2002) use the two terms interchangeably. In the statistical analysis, I will be using the term 'Agentive' for reasons of comparability with Vikner & Jensen's results.

Examples of such possessive phrases are *the lake's surface water*, *the sea's mineral resources*, *Iceland's brittle volcanic rock* and *Denmark's four hundred islands*.

Furthermore, the category includes NPs whose possessor noun denotes “the human society located in the region”, the parts of which in turn may subsume “human beings and their physical and cultural artefacts” (ibid.: 15). Among these, they cite NPs such as *Iceland's chieftains*, *France's political parties*, *one of the world's great literatures*, *the country's two largest trade union associations* and *the country's top 100 hospitals*.

v. Pragmatic

The Pragmatic group is primarily used for tokens such as *Ann's sky* and *Ann's sunbeam*, i.e. for those possessum nouns whose qualia structure supposedly does not contain an eligible quale which could be picked up compositionally by the possessor phrase. It is also used in cases where a lexical interpretation is somehow overridden, as e.g. in the deaf mute example I have been discussing in earlier chapters.

It is important to note that the Pragmatic group was often not as straightforwardly applicable to the corpus data as the other groups. This is in part due to the fact that pragmatic interpretations are defined as ‘non-default’ interpretations, the very concept of which is problematic on theoretical grounds.⁷ Furthermore, it is not clear from Vikner & Jensen's definition (2004: 5) what precisely ought to be classified as “pragmatic knowledge and discourse knowledge”. Because of this conceptual fuzziness, the coding of this category may reflect more subjective bias than the others.

6.3.2.3 Co-textual pointers

The below five pointer categories were discerned on the basis of prominent co-textual features which render a particular possessive relation salient in the respective 500 word context.

i. Predicate-1

The possessive relation is overtly explicated by the use of a verb which paraphrases the possessive NP.

ii. Predicate-2

The possessive relation is entailed by the use of a verb in close adjacency to the possessive NP.

⁷See my elaborate discussion of this issue in Chapters 3 and 4.

Predicate-1 and Predicate-2 both subsume possessive tokens which were surrounded by a co-text containing either a) an explicit verb paraphrase of the possessive relation (Predicate-1), or b) a more implicit verb paraphrase which allowed conclusions as to the possessive relation via e.g. presupposition or an entailment relation (Predicate-2). Note that I typically only used these categories when the paraphrase was in a relatively short distance to the token. The only exception here were co-referential tokens, as exemplified by (109). The following two excerpts are exemplary of such short distances:

- (107) The older jailbirds were a snouty, ferrety contingent. Some of them looked only half-made. They sat back easily on their benches, their gestures resigned, explanatory. Their women were tensed forward on **their seats**, almost in a crouch of inquiry or solicitude. (HOM 2671)
- (108) Back in Flat 3 I changed out of my Court Appearance gear and into civilian clothes. In other words, I took off my tie and transferred money, keys and a pack of Piccadilly No. I cigarettes [...] from my one half-respectable navy blue blazer into my fur-lined leather bomber jacket. (HTL 3071)

In (107), the possessive relation can be straightforwardly paraphrased as ‘the seats they were sitting in’ in accordance with the predicate *sat back* contained in the co-text, giving rise to a Predicate-1 pointer. The predicate *take off* in (108) entails that the speaker was previously wearing the tie, and hence gives rise to the paraphrase ‘the tie that I was wearing’ that is representative of a Predicate-2 pointer. The example in (109) contains two co-referential possessive NPs, with the Predicate-1 pointer occurring before the antecedent (*a gold fish*) rather than the possessive NP. A longer stretch of text between these two tokens was therefore admissible.

- (109) I once dreamt about a gold fish whose scales were all shiny. [... LONG TEXT HERE ...] I sometimes still think of **my gold fish** now!

Tokens such as (109) were relatively infrequent on the whole, but when they did occur, I coded them as Predicate-1 or Predicate-2. In the case of Predicate-2, I was frequently not all too strict about proper (in the logical sense) entailment relations. My use of the term reduces to ‘common sense’ entailment rather than semantic entailment. Below are a number of tokens which I straightforwardly coded as Predicate-2:

- (110) During the occasional moments in which the driven rain lost its solidity, Trent could see **Mariana’s arms** locked round a fallen tree-trunk some twenty yards upstream. (AMU 2022)
- (111) Norms can be thought of as unwritten rules. Any group of people will, over time, develop common rules governing **their behaviour**, and these rules are often described as norms. (B17 77)
- (112) However you decide this conundrum, you should state your decision in the answer. If you rule this second topic out of order, and the examiner wished it to be included, the

examiner will at least see that you have had the point present in **your mind**, and will probably also be brought to see that he was at fault in his wording of the question. (FRA 707)

The verbs ‘locked around’ in (110) and ‘governing’ in (111) strongly suggest that the arms and behaviour belong to Mariana and any group of people respectively. While they do not exclude the possibility of the arms and/or the behaviour being someone else’s, this seems unlikely given the rest of the context. In (112), the rationale is that, in order to be able to recognise/be aware of it, one can only have a point present in one’s *own* mind.

iii. Bridging

The possessive relation can be inferred based on association with a scenario/frame evoked by (linguistic units in) the previous discourse.

Bridging, as discussed in the previous chapter, involves definite reference to a possessive referent by means of an indirect associative link between two discourse referents, where the identity of one can be inferred by means of the other. As for the operationalisation of the category, I have previously established that construction-internal and construction-external identifiability mechanisms conflate in the case of Bridging inference. It is for this reason that I am using it as a pointer category.

Note that Bridging usually only applies to *stereotypical* or part-whole association. As Willemse (2005: 119) notes,

“[...] bridging reference is based on the conceptual relation between the two entities involved, frequently a part-whole relation (e.g. *a car* → the steering wheel), but equally occurring are relations of more general association, strong enough to allow the inference of one entity from another (e.g. *a house* → *the owner*). The antecedent may also be an event or activity referred to in the preceding discourse. The referent which is realized through bridging is in such cases an entity somehow involved in the event or activity described (e.g. *he has been murdered* → *the police haven’t found the killer yet*). Finally, the ‘antecedent’ may be a scenario or frame, involving certain entities fulfilling certain roles, which is evoked in the preceding context (e.g. [*eating at a restaurant*] → *the waiter forgot to bring us the menu*).”

A good diagnostic to establish ‘strong’ association is the possibility to use the definite article to introduce the possessive referent (see section 5.5.3.2). My own definition of bridging is slightly looser to allow for the categorisation of tokens whose possessive relation can *plausibly* be inferred by means of association with a scenario or frame that is evoked by the surrounding linguistic discourse. The definite article diagnostic therefore need not necessarily apply. Note that this constitutes a relatively broad application of the concept which is not restricted to cases of part-whole relationships *stricto sensu*. This is because I take the associative relation between

parts and their wholes to be a relatively widely applicable concept: certain frames evoke certain relations, and these relations I take to be a part of the respective frame(s). The term bridging then simply refers to the inference from the whole (the frame) to its plausible part (the entity which stands in a salient relation with entities mentioned in the frame).

A brief word on what constitutes a ‘plausible’ part is needed at this point. Naturally, certain associations are more stereotypical than others, even in the loose sense of the term. For example, imagine a work context in which somebody complains about “their paperwork”. I assume that, in such a context, the referent can be inferred by means of bridging, since work frequently produces paperwork. This is not to say that work *necessarily* produces paperwork (e.g. a cash-in-hand type job). In this sense, it is debateable whether or not such an example could straightforwardly be classified as an instance of bridging. However, given my relatively loose definition of the term, and in order to guarantee a more uniform treatment of the category, I allow for a range of degrees of stereotypicality associated with relations between entities. In other words, as long the relationship between two concepts is conceivable, I will assume that one constitutes a ‘plausible’ part of the other.⁸

In order to get a better idea of what I coded as instances of Bridging, consider the below examples:

- (113) On the phone we talk and we listen. Sometimes **our teenagers** talk to their boyfriends and girlfriends for hours on the phone. Mystified parents, who ought to know better, ask: ‘What took you so long? Surely you didn’t have that much to say to one another? After all, you are seeing him in ten minutes.’ Then they smile because they know you really ought to have known better. (ABV 559) [PARENTS FRAME]
- (114) I consider this to be substantially true, and particularly true of my own childhood, although in this case there was scarcely any need for translation. The implications were that I had no physical characteristics of my own, but that in the same way as I “had” my father’s nose, or my grandmother’s eyes, I somehow inhabited a body which was not mine but a replica of **my mother’s**, and over which, therefore, I had no control. (CEE 34) [FAMILY FRAME]
- (115) When he lifted his head minutes later Isabel was completely helpless in his arms. She clung to him, dazed, **her heart** pounding, her breath coming raggedly from between slightly swollen lips, her legs barely supporting her. Her lashes fluttered open to meet fitzAlan’s darkened eyes mere inches away. (BP7 4154) [BODY FRAME]
- (116) That night I only slept a little, dreaming of the red room at Gateshead. The moonlight

⁸Needless to say, the paperwork scenario already exemplifies a serious issue. The particular stretch(es) of context which end(s) up determining for any one addressee the precise identity of the referent might differ depending on his or her notion of stereotypicality attached to certain possessive relations. For example, what might count as bridging for one annotator may not for another. This also means that the coding of the data reflects my own judgement and might not be entirely reproducible by another annotator. Nevertheless, the coding criteria I have devised for each of the five subcategories should be sufficiently objective to warrant some degree of correspondence. This should be especially true given the ‘shortest distance’ criterion pertaining to Predicate-1 and Predicate-2 pointers, as well as my handling of the simultaneous presence of multiple pointers (see also my discussion of example (120)).

shone into **my bedroom**, as it did then, and I saw a vision on the ceiling, a white figure looking down on me. (FR6 2090) [NIGHT TIME FRAME]

All four examples contain possessive NPs that are surrounded by linguistic expressions (indicated by the dashed underlining) giving rise to a bridging inference. In particular, (113) contains a reference to mystified parents, which strongly evokes a kinship relation through which the reference to *our teenagers* is secured. Similarly in (114), the co-text talks of family members and their physical appearance as well as the speaker's own childhood and so facilitates the inference of a kinship relation between the speaker and the mother. Example (115) contains a number of references to body parts, which strengthens the default inference of a part-whole relationship between the female referent and the heart in question. The NP *my bedroom* in example (116) is surrounded by co-text which evokes a night time frame, e.g. reference to sleeping and dreaming, and so plausibly leads to a bridging inference. This, in turn, gives rise to the contextually salient control interpretation of 'the bedroom I sleep in'.

iv. Text reference

The possessive relation can be inferred by means of text referential mechanisms, which yield a possessive referent on the basis of non-nominal previous discourse.⁹

Similar to the Bridging category, this category is the same as the discourse status category since it conflates construction-internal and construction-external identifiability mechanisms. Furthermore, Text reference is frequently not limited to a single pointer:

(117) 'Are you good?'

'Not bad, considering the shaky start I had. When I was a first year I was put in as ballboy and I didn't know the rules. I kept throwing the ball back to the wrong player. Every time I thought I'd got the hang of it the service changed. And then I was sent to retrieve the balls from the headmaster's garden. I was terrified of knocking on the door of the house to ask permission but I was even more terrified of going back and making a fool of myself because of **my ignorance on court** so I spent the rest of the afternoon skulking behind the sweet peas.'

Example (117) contains multiple pointers (see dotted underlining), all of which are summarised and referred back to by the possessive NP *my ignorance on court*. In cases for which it was difficult to converge on a single obvious pointer category, I thus coded the respective token as an instance of Text reference.

v. None

The possessive relation cannot be inferred by means of any of the above categories. The

⁹See section 5.5.2 for a more elaborate discussion of this category.

token is however still interpretable.

As the name of this category suggests, its use is restricted to possessive tokens whose salient possessive relation does not appear to receive any co-textual priming within the 500 word frame (or perhaps at all). It is important to note that this does not mean that the token is uninterpretable.¹⁰ The following are representative examples:

- (118) Logic Promotions, those people who do the Number One range of instrument care products – fingerboard oil, and so on – have just brought out a new set of unusual and rather delectable guitar cables. As well as standard black, blue or red leads, they do fluorescent orange and mint green (no-one’s going to walk off with those by accident), a beautiful translucent pink lead with the copper shielding visible underneath and, funkiest of all, red/green and black cotton-wound cables, looking rather like climbing rope or the lead on **your Gran’s old toaster**. (C9K 43)
- (119) Curve, who are in the middle of a nationwide tour, have just released a new single *Fait Accompli*. It’s a powerful, emotional song and looks set to put them firmly on the chart map indeed, it entered The Northern’s North-East chart at No 1 this week. Their debut album *Doppelganger*, which was written and recorded in just three months, is out on Monday. It was produced by **Toni’s boyfriend Alan Moulder**, of Ride and Jesus and Mary Chain fame. (K4V 1054)

Arguably, the interpretation of the NPs *your Gran’s old toaster* in (118) and *Toni’s boyfriend Alan Moulder* in (119) constitute examples of default interpretations. There is nothing in either co-text that provides any meaningful clues with respect to the identity of the grandmother, the toaster or the boyfriend.

Before I proceed to the results of the corpus study, a word on the existence of multiple pointers is in order. In a number of cases, the token in question was surrounded by a co-text which contained several pointers in close proximity. For example, (120) contains both a scenario/frame (European trees) giving rise to a bridging inference, as well as an explication of the salient relation in terms of a predicate (grow and shed).

- (120) When European trees were taken to the tropics to grace the residences of nineteenth-century colonists, they continued to grow and shed **their leaves** at regular intervals. (FEV 1882)

In such cases, I coded the token for the category which was closest (in linear distance) to the possessive token (here: Predicate-2), or, as previously mentioned, as cases of Text reference when the respective parts of the co-text were not as neatly categorisable.

¹⁰As stated above, if this was the case, I excluded the token from the data set altogether.

6.4 Results

The final token set was submitted to statistical analysis in R (R Core Team, 2013).

6.4.1 Univariate analysis

6.4.1.1 Interpretation group

Univariate analysis of the variable interpretation group shows the following distribution¹¹:

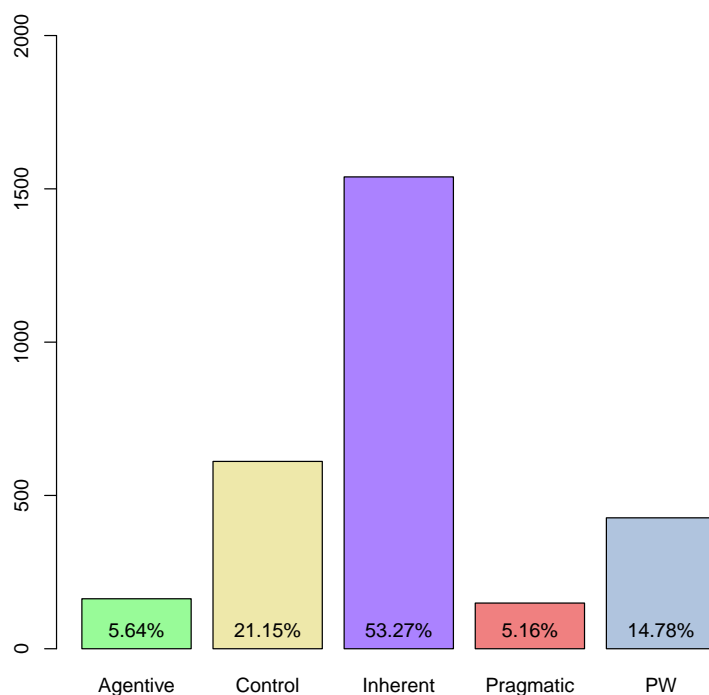


Figure 6.1: Univariate distribution of the variable interpretation group

This distribution roughly mirrors Vikner & Jensen's (2003) findings, which are based on the analysis of 2,333 possessive phrases extracted from one fictional and one non-fictional text (see section 5.3.2):

¹¹NB: The Part-whole group will be referred to as 'PW' in the statistical analysis.

Agentive	57	2.4%
Control	313	13.4%
Inherent	1666	71.4%
Pragmatic	9	0.4%
PW	282	12.1%

The higher number of Pragmatic and Control tokens in my own findings should be explainable by the fact that I applied a looser notion of each category to the corpus tokens. This is not surprising, given the lack of concrete criteria that are defining of these interpretations.

6.4.1.2 Pointer category

The subcategories of the variable pointer category show the following distribution:

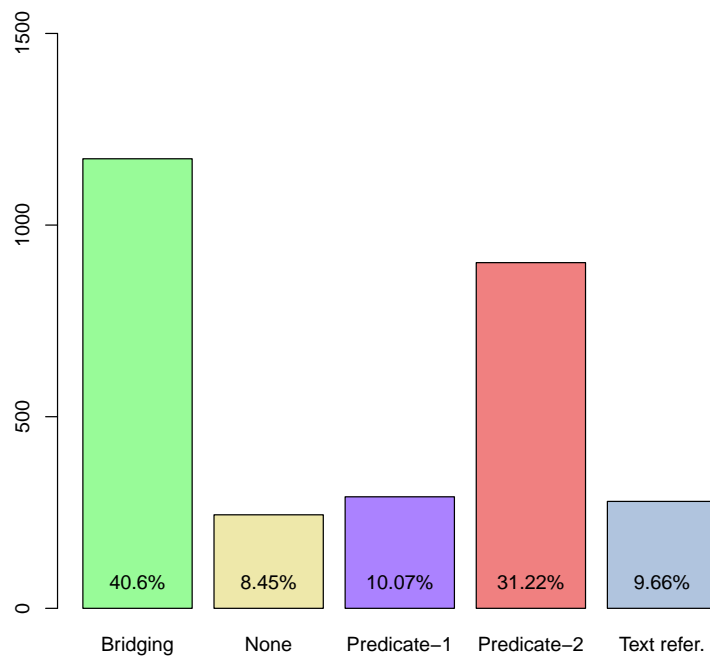


Figure 6.2: Univariate distribution of the variable pointer category

Figure 6.2 shows that the majority of possessive tokens receive contextual support of some sort, with the majority being explicated by Bridging and Predicate-2 pointers. The percentage of explicit co-textual support (Predicate-1) is surprisingly low, a tendency I will discuss further in section 6.5 in connection with the observation that approximately 8% of all tokens receive no co-textual explication at all. To illustrate the results more adequately for our purposes, i.e. to illustrate the overall degree of co-textual support, consider Figure 6.3.

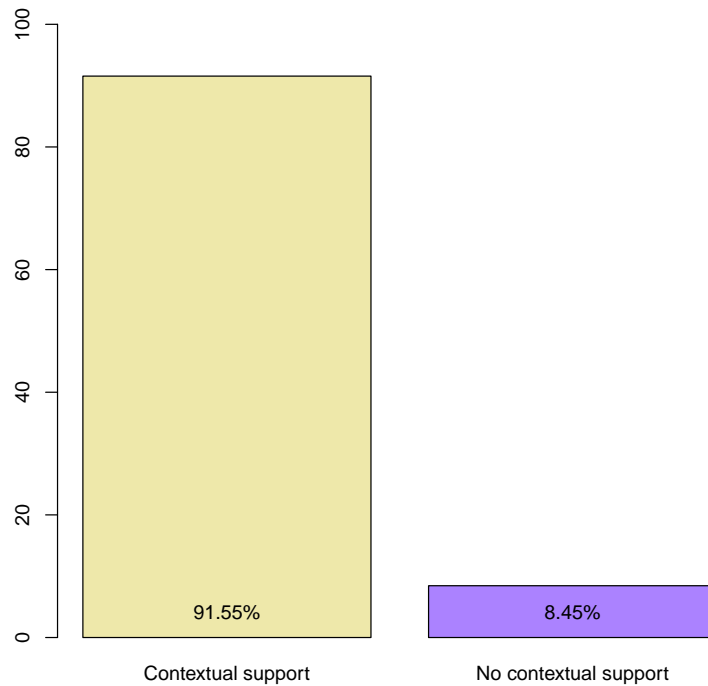


Figure 6.3: Univariate distribution of the variable pointer category (Bridging, Predicate-1, Predicate-2 and Text reference collated)

Overall, applying a broader notion of context to the analysis of the corpus data, approximately 92% of all tokens exhibit contextual support.

6.4.2 Bivariate analysis

6.4.2.1 Descriptive statistics

6.4.2.1.1 Possessor types and interpretation groups

To get a better idea of the distribution of interpretation groups across the possessor NP types in Table 6.2, I conducted two cross-tabulations on the basis of two groupings: full NPs vs. pronominal possessors, and human pronominal vs. 3rd person singular possessors (*its*). The main reasoning behind these two groupings was to determine whether or not certain possessor types favoured certain interpretations when compared to the respectively other group. For example, it could be the case that pragmatic interpretations never occur with 3rd person singular possessors given their natural correlation with part-whole interpretations.¹²

The below bar plots illustrate the relative distributions (p values based on raw figures).

¹²Thanks to Malvina Nissim for this suggestion.

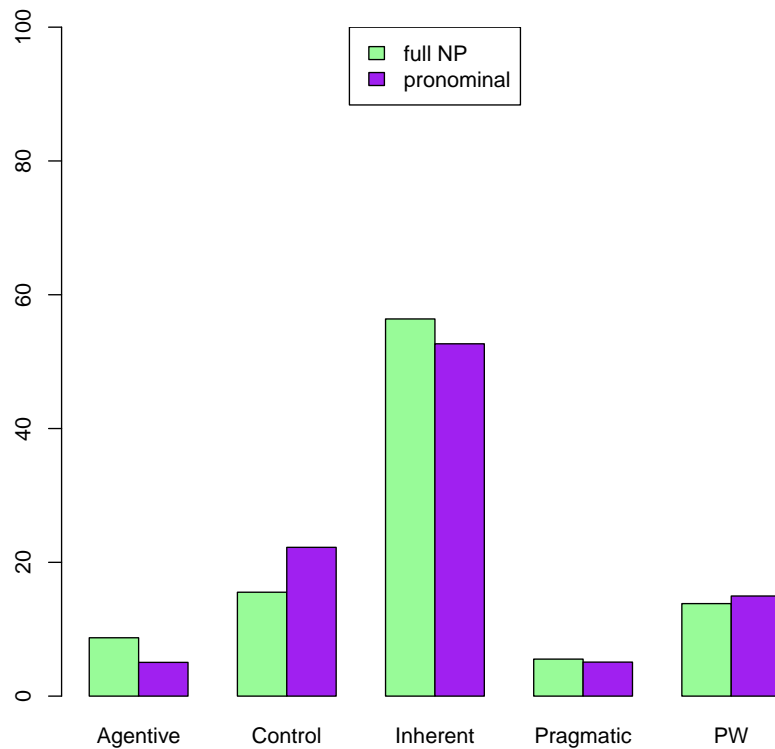


Figure 6.4: First cross-tabulation of possessor type and interpretation group (percentages) ($\chi^2 = 19.337$, $df = 4$, p value $< .001$)

The distribution of interpretations groups across full NP and pronominal possessors is relatively even for inherent, pragmatic and part-whole interpretations. The Agentive and the Control group show a greater bias towards full NPs and pronominal possessors respectively. As for the second grouping, Figure 6.5 shows that agentive and control interpretations occur more frequently with human pronominal possessors, while inherent interpretations occur more frequently with full NP possessors. Contrary to intuitions, pragmatic and part-whole interpretations spread evenly across both groups.

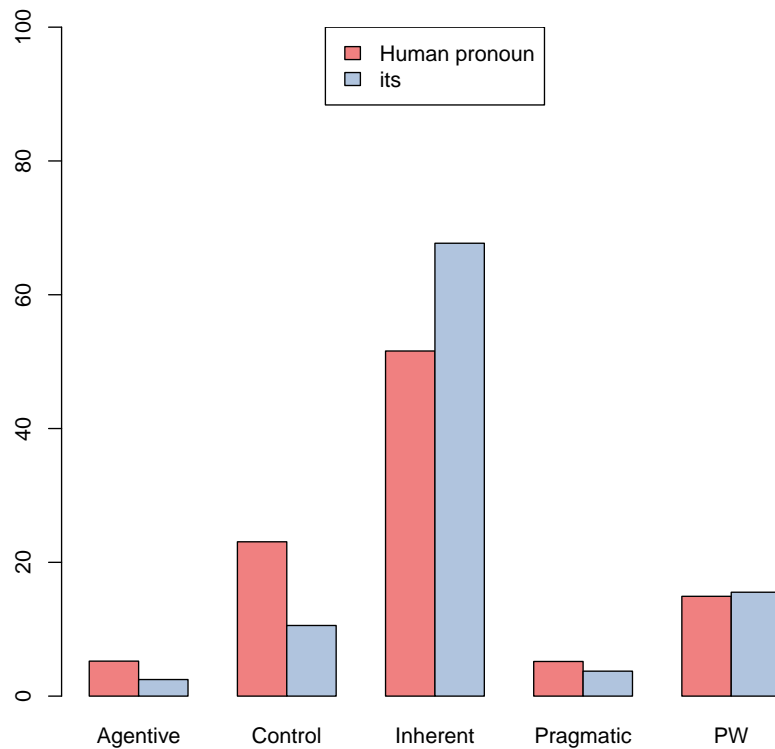


Figure 6.5: Second cross-tabulation of possessor type and interpretation group (percentages) ($\chi^2 = 20.8877$, $df = 4$, $p\text{-value} < .001$)

6.4.2.1.2 Interpretation groups and contextual support

To establish which group(s) reveal(s) the highest degree of contextual support, Table 6.3 and Figure 6.6 respectively show the results of a cross-tabulation between the variables interpretation group and pointer category.

	Bridging	None	Predicate-1	Predicate-2	Text reference
Agentive	68	4	35	34	22
Control	234	20	88	225	44
Inherent	621	201	137	386	194
Pragmatic	86	2	23	23	15
PW	164	17	8	234	4

Table 6.3: Cross-tabulation of contextual support and interpretation group ($\chi^2 = 335.5201$, $df = 16$, $p\text{ value} < .001$)

For better visualisation, the below bar chart shows the above numbers in percentages:

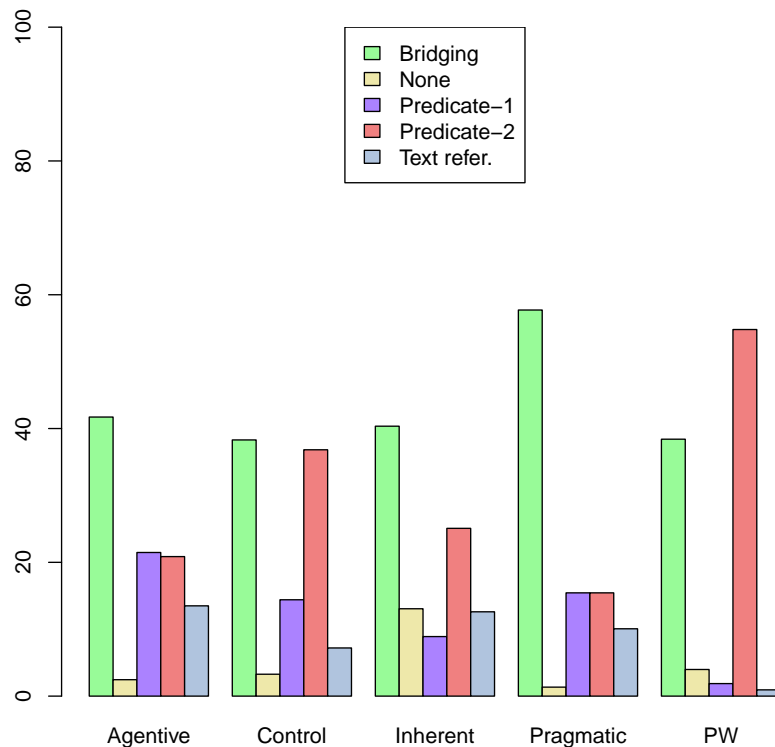


Figure 6.6: Cross-tabulation of contextual support and interpretation group (percentages)

Most noteworthy is the high amount of contextual support for all five interpretation groups. Specifically, all groups reflect a considerable degree of Bridging support. This is particularly noticeable in the four lexical groups. Contrary to all others, the Inherent group shows a non-negligible amount of no contextual support (None). Furthermore, the presence of explicit contextual support (Predicate-1) is relatively to very low compared to more implicit pointer categories in all five groups.

The above results reveal an overall statistically significant correlation between the variables interpretation group and contextual support. A Cramér's V test of the associational strength between the two variables yields a value of 0.17, i.e. weak association according to the below table.¹³

¹³Cramér's V (rather than the ϕ -coefficient measure) is used for measuring associational strength between variables whose contingency tables exceed the basic 2x2 format.

ϕ	Interpretation
0 – 0.1	negligible association
0.1 – 0.2	weak association
0.2 – 0.4	moderate association
0.4 – 0.6	relatively strong association
0.6 – 0.8	strong association
0.8 – 1	very strong association

Table 6.4: Interpretation of ϕ -coefficient (from Rea & Parker, 2014)

6.4.2.2 Logistic regression analysis

In order to gauge which interpretation group contributed most significantly to the overall significance of the correlation, I conducted a binary logistic regression modeling the (binary) response variable contextual support as a function of the (multi-category) predictor variable interpretation group. The reference category was set to ‘None’ for contextual support and to ‘Pragmatic’ for interpretation group.¹⁴

	Estimate	Std. Error	z value	p-value	Signif.
(Intercept)	4.2973	0.7114	6.04	0.0000	***
Agentive	-0.6147	0.8731	-0.70	0.4814	
Control	-0.9112	0.7468	-1.22	0.2224	
Inherent	-2.4017	0.7154	-3.36	0.0008	***
Part-whole	-1.1143	0.7532	-1.48	0.1390	

(significance codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1)

Table 6.5: Logistic regression analysis of the variables interpretation group and contextual support

The results in Table 6.5 show that, when compared against the Pragmatic group, the only interpretation which is significantly different with regard to the presence or absence of contextual support is the Inherent group. While all four lexical categories show a decrease in likelihood of contextual support being present, the only group which does so to a statistically significant degree is the Inherent group. In other words, the majority of lexical interpretation groups, i.e. the Agentive, Control and Part-whole group respectively, do not behave significantly differently to tokens in the Pragmatic group, which for the most part receive contextual support.

¹⁴The reference category represents the level against which all other interpretation groups are compared with respect to their likelihood of being contextually supported. In this regression model, the categories Agentive, Control, Inherent and Part-whole are compared to the Pragmatic group. The Pragmatic group was selected as the reference category because it has been alleged to differ significantly from all other interpretation groups. The Estimate column is most important for our purposes: it indicates the increase (positive values) or decrease (negative values) for contextual support (vs. no contextual support) to occur.

6.4.2.3 Contextual explication in individual interpretation groups

To get a better impression of the coding, I will now discuss a number of examples illustrating the different kinds of contextual support as they occur across the five interpretation groups. The first respective example in the below sets includes tokens in which the salient possessive relation is supported through different kinds of pointers, while the second respective example includes tokens with no contextual support.

Agentive

Bridging:

- (121) The sonnets to the Friend, by contrast, elicit warmth in us by the warmth that they contain. As C. L. Barber has finely said, in these poems ‘poetry is, in a special way, an action, something done for and to the beloved Many of the sonnets are wonderfully generous poems; they give meaning and beauty’ The generosity resides in the act of celebration, a process by which the Poet can fade himself out as an actor, reducing himself to the role of recording agent. In Sonnet 17, indeed, he seems quizzically aware that his dedication to panegyric may result in a loss of credibility: ‘Who will believe **my verse** in time to come?’ (CRV 546)

None:

- (122) The pressure to remodel old pubs is of course nothing new. The Victorian and Edwardian eras witnessed many wholesale rebuildings of modest Georgian drinking-houses; during the Interwar period even more money was pumped into enlarging and rebuilding old pubs, as well as in creating large new ones (see **Alan Powers’ essay** below). (A0B 26)

In (121), the producer relation in *my verse* is made explicit via a poetry/writing frame in the surrounding co-text. By contrast, the co-text in (122) contains no such pointers. The identity of the essay is likely to be explicated later on in the discourse, as indicated by the reference to the ‘below’ stretch of text. The present stretch of the discourse does, however, not contain any clear indication of an authorship relation between Alan Powers and the essay. This interpretation, I believe, rests on stereotypical association between human beings and essays, or alternatively specific knowledge of the fact that Alan Powers is a writer.¹⁵

Overall, the Agentive group shows a substantial degree of contextual support being present. It appears that this interpretation is almost always supported in some way by the linguistic context, with only few tokens receiving no contextual support. This is in line with my discussion in Chapters 3 and 4, where I questioned the semantic character of the Producer relation.

¹⁵As retrieved from https://en.wikipedia.org/wiki/Alan_Powers.

Control

Predicate-1:

- (123) The others climbed back on board, but Stephen, who's a competition swimmer and water-skier, was swept away. He was found dead 26 hours later by police divers, wedged under a rock, just 600 yards away from the spot where he fell in, still wearing his life-jacket. (K1K 2605)

None:

- (124) The telephone rang, mercifully cutting short any more disturbing thoughts, and she picked up the receiver.
'Hello?'
'Fran? Thank heavens you're back at last!'
'Fred? What's wrong? Why did you want me?'
'Because I've been worried sick ever since I saw **your car**.'
'My car? What's wrong with it?'
'You mean you don't know? I hate to be the bearer of bad tidings, so to speak, but it's been virtually wrecked – tyres slashed, windows smashed ... the works.' (JXV 517)

Example (123) contains an explicit Predicate-1 pointer ('wearing'). (124) is an example of spoken discourse between two participants in which the reference to the car is clearly obvious to the addressee Fran ('My car? What's wrong with it?'). The None coding is thus based on my own perspective as the addressee of the spoken discourse. Despite the fact that the relationship which holds between Fran and the car is not immediately obvious from the co-text, the entire example is comprehensible due to what seems to be a default interpretation of control.¹⁶ Overall, much like the Agentive group, the Control group for the most part reflects a high presence of contextual support, with only a small fraction receiving none.

Inherent

Text reference:

- (125) From my earliest days my father had planned my future along rigid lines. Without any consideration for my talents – such as they were – or my own wishes – never expressed – he had decided my path. I followed his chosen route through army and university but my heart wasn't in it. I wanted to draw, paint and write. If I had wanted to study anything academic, it would have been archaeology, history or possibly architecture. I could never have expressed that wish so long as my father was alive, for I had been trained to think that such sentiments would hurt him. So deeper and deeper I went into

¹⁶In fact, the relation remains relatively indeterminate and could virtually be any relation which would bring about negative consequences for the possessor.

the world of science, wanting all the time to express myself in a totally different field. Not until he was dead did I dare to go in the direction I wanted.

Even then the move wasn't taken lightly. My wife supported me, but my in-law's [sic] saw me as an engineer. The 'arts' were not part of **their orbit**. (B19 2034)

None:

- (126) At Brigade H.Q the Brigade Major was just leaving as I arrived and there was no sign of Shimi Lovat. He was probably visiting one of the forward units at the village perimeter. Mick informed me that the Brigade Major had gone to pay No. 4 Commando a visit, so I decided to make my own way there and keep out of the Brigade Major's path as much as possible. No. 4 Commando positions were being heavily mortared when I arrived, and Jock, **my friend of many years ago**, took me off to find some shelter in a dug-out, giving at least some protection from the flying shrapnel. (A61 641)

Example (125) is an example of Text reference, where the phrase *their orbit* summarises the mindset of the speaker's parents-in-law. The underlined expressions make it sufficiently clear that both the speaker's own parents and his in-laws were not supportive of his wish to become an artist by 'planning his future' and 'deciding his path'. It is these actions and this rigid mindset which is referred back to by the possessive NP to denote the orbit within which this behaviour is taking place. Example (126) arguably constitutes another example of a default inherent interpretation which relies on extra-linguistic factors not significantly supported or primed by the present co-text.

The logistic regression analysis in Table 6.5 revealed that, out of all five interpretation groups, it is the Inherent group which contributes most strongly to the overall significance of the correlation between the variables interpretation group and contextual support. Notably, nearly 20% of all tokens in this group receive no contextual support, which is a significantly larger fraction compared to the other four groups.

Part-whole

Predicate-2:

- (127) Cruising around in a seaplane is all very well, but water-work is always the most fun. Flap limit is 91 knots, and pumping them down requires rather more muscle than retraction. Circuits are normally flown with climb or take-off flap at eighty knots, reducing to seventy with landing flap on final approach. [...]. Retaining a trickle of power through the flare reduces the rate of descent to near zero, and the aircraft is gently lowered to the surface in the almost-level planing altitude. Once down, gently close the throttle and bring the wheel back to your chest, and with a rearing nose the aeroplane slows in a shower of spray and a surprisingly short distance. (BNV 280)

None:

- (128) Vitoria, capital of Espirito Santo state on **Brazil's Atlantic coast**, has recently become notorious as the home of a crime syndicate allegedly run by several state policemen, involving drug trafficking and stolen cars. (AAT 262)

Example (127) evokes a flying scenario by reference to muscle control ('requires more muscle than retraction'). The earlier part of the co-text could thus be classified as giving rise to a bridging inference which explicates the referent of *your chest*. However, a clearer indication of the part-whole relation appears right before the possessive token: the Predicate-2 expression 'bring the wheel back to' strongly suggests that the salient chest is the pilot's own chest. The part-whole relation in (128), on the other hand, is not inferrable from the co-text as such, but again rests on stereotypical or inherent association which is plausible in the absence of co-textual evidence to the contrary.

The Part-whole group, despite containing possessive tokens with possessum nouns that encode the possessive relation, overall reflects a surprisingly high degree of contextual support, especially compared to the Inherent group. This amounts largely to more implicit pointers such as Bridging and Predicate-2, with the overall number of explicit paraphrases being low.

Pragmatic

Predicate-1:

- (129) Two previews later – it was blizzarding and they were less than packed houses – we drove back to Madison and I crashed out. 'I have always depended on the kindness of strangers', says Blanche DuBois in Streetcar. **My strangers** had all become my family. (H9Y 3036)

None:

- (130) At the centre of the row is Fr Buckley's action in travelling Ireland to wed couples banned from marriage by the Catholic Church. They involve men and women who have previously married and whose relationships have broken down. The Catholic Church refuses to re-marry such men and women unless they are among the minority who secure rare Church nullity decrees of their previous marriages. During one of his shows on Classic Hits in August 1991, bearded Fr Clery, who is the Church's 'ambassador' to **Ireland's youth**, commented in detail on Fr Buckley's actions in marrying such couples. (HJ3 208)

The salient relation of the Pragmatic token *my strangers* in (129) is explicated by the Predicate-1 pointer ‘depended on the kindness of’, referring to the strangers which have been supporting the speaker in his quest for shelter. Being an instance of a pragmatic interpretation, the relationship is looser than more stereotypical relationships of the kinds we saw above.

Example (130) is interesting because it represents a pragmatic interpretation (‘the teenagers that Ireland is responsible for’) which receives no direct co-textual support within the 500 word context. It is, however, still comprehensible, despite the fact that pragmatic tokens are alleged to require explicit contextual explication for their interpretation. The other Pragmatic token (JTA 1140) which I coded as receiving no contextual support is the following, contained within an excerpt of spoken language:

- (131) 1139 Yeah yeah.
1140 She’s come down now to take over buying and she thinks Dave’s a wanker.
1141 A prat.
1142 Yeah?
1143 Right.
1144 And I can get Richard and and Sally interested
1145 Right.
1146 but David’s sat there at the minute in the background.
1147 Right.
1148 Now Yes <unclear> wait
1149 What I need to do is get him out the way.
1150 till he’s out of the way,
1151 Right.
1152 and suggest to **your Sally**
1153 Yeah.
1154 that you on– on one of your visits it would be a very good idea if you sat down with her and the engineering pal
1155 Yeah, and Roy.

The above co-text does not contain any direct indication of the possessive relationship, which appears to reduce to an interpersonal relationship between the addressee and a woman called Sally, who was previously mentioned (line 1144).

Overall, the Pragmatic group reflects similar tendencies as the other interpretation groups, except for only a small number of tokens (see above) receiving no co-textual support whatsoever. Although these examples are extremely rare, they are interesting in light of our working hypothesis, which I will come back to in the next section.

6.5 Discussion

6.5.1 Methodological caveats

Prior to discussing the results in light of the two questions I asked at the outset of this chapter, I wish to consider a number of methodological caveats. First and foremost, a quantitative investigation of this kind, which looks into the context-dependent nature of pre-nominal possessives, can at best provide us with a glimpse of the nature and mechanisms involved in inferring salient relations. This is certainly true given my restriction to the small amount of co-text I considered for each token. Any results therefore need to be considered within the boundaries of this study.

Furthermore, as I stated in section 6.2, I am predominantly interested in providing an overview over the various pointers which are contained within the linguistic co-text and which serve as inference *triggers* in the comprehension process. This is not to say, however, that such cues obviate the need for further inferential enrichment, or that there is not a more complex picture to consider. The methodology at hand should thus not be regarded as being capable of exhausting every detail of the comprehension process, to the extent that this is possible at all.

A further, and I believe more serious methodological shortcome lies in the fact that the corpus study involved a certain degree of what Vikner & Jensen (2004: 24) call “data exegis”. This term refers to the idea that the interpretation and coding of the data at hand may be influenced by the theory one seeks to advocate. This relates not only to the delineation and coding of contextual support, but also to the coding of the various interpretation groups. For example, Vikner & Jensen (*ibid.*) discuss the problem of noun relationality with respect to the coding of the Inherent group:

“[...] a central concept of our theory is ‘inherent relation’, but this is not an entirely unproblematic concept. In cases of nouns like *friend*, *teacher*, *member*, etc., it seems rather straightforward to determine the relation. But more generally there is an important and difficult question as to what makes a given noun relational. [...] We think it is very hard to lay down firm criteria for determining membership of the class of relational nouns, and, therefore, we are not blind to the fact that there is some room for debate as to the exact membership of the class.”

Looking at the relevant literature on relational nouns, the question of what makes a noun relational boils down to the question of whether its relationality is determined and exhausted by its two-place semantics, or determined by its use in context. The former constitutes the received wisdom in much of the literature advocating the *relational view* (e.g. Löbner, 1985; de Bruin & Scha, 1988; Dekker, 1993; Barker, 1995, 2010). The possibility of the latter has more recently been explored by a number of researchers supporting the *non-relational view* (e.g. Keizer, 2004; le Bruyn et al., 2013; Payne et al., 2014).

The relational view, most persistently advocated by Barker (1995: 9; 2010: 3), suggests

that a noun is inherently either relational or non-relational. Its category membership can be established by a syntactic test called *of*-postposition:

- (132) a. a child of John
b. *a firetruck of John

The underlying rationale is that, if a noun fails this test (as in (132)(b.)), it should be non-relational. This test is, however, less clear-cut than it may appear at first sight. The vast amount of variationist literature on the English genitive alternation (*John's parents* vs. *the parents of John*) has long demonstrated that the choice between the pre- and post-nominal possessive construction is frequently not so much a matter of semantic as a matter of pragmatic-syntactic factors.

To name a few, Rosenbach (2005), Payne & Berlage (2009), Hinrichs & Szmrecsanyi (2011) and Grafmiller (2014) all show that heavy NP constituents favour the post-nominal construction to a statistically significant degree. The alleged ungrammaticality of *a firetruck of John* can then be explained by the fact that the possessor, *John*, is a one-word constituent, which naturally favours the pre-nominal construction. By contrast, it would be perfectly acceptable to say *a firetruck of the woman with the black hair and the green bag*, where a longer and heavier possessor NP renders the use of the post-nominal construction grammatical, i.e. despite the fact that the noun *firetruck* is non-relational. In other words, it is simply not right to star phrases such as *a firetruck of John* on the grounds of an alleged semantic difference between relational and non-relational nouns. If we trust the quantitative evidence from the variationist literature, this argument quickly loses ground.

Contrary to the relational view, the non-relational view suggests that the distinction is largely conceptual in nature (see especially Keizer, 2004). Thus, certain nouns trigger more relational-conceptual structures when they are encountered (e.g. *mother*, which evokes a kinship relation to a child). A similar stance is put forward by Payne et al. (2014), who argue that relationality is predominantly a matter of world knowledge and therefore depends on the individual speaker. Furthermore, as shown by le Bruyn et al. (2013: 1), even “intuitively non-relational” nouns, such as *church* and *cafe* below, show relational patterns. These manifest in the possibility for *of*-postposition:

- (133) a. the church of the monastery of Asteri
b. the cafe of the old harbour

In light of these observations, relationality is thought to be pragmatic in nature and defined in terms of how the noun in question is put to use. We may therefore speak of relational vs. non-relational *use*, but not of strict category membership *per se*. As it stands, there is consequently no linguistic test that straightforwardly delineates relational or non-relational category membership, let alone establishes the distinction in any meaningful way in the first place.

What this means for the present study is that my coding of the Inherent group is by no means absolute, but open to debate. While it is largely in line with the relational view, it does not rely on syntactic tests. It follows Vikner & Jensen's *semantic* conception of what noun relationality boils down to, which is described as follows by Barker & Dowty (1993: 3):

“[A] relational noun is one such that an entity qualifies for membership in the extension of the noun only by virtue of there being a specific second entity which stands in a particular relation to the first, and where that relation is determined solely by the noun's lexical meaning.”

In other words, relationality here is defined not in terms of any syntactic manifestations, but in terms of its conceptual base: a noun's relationality is determined by its conceptual two-placedness, and so does not change with context. What this means is that, even in different contexts, for instance when the relational possessor argument is dropped, as in (134), a relational noun will not suddenly become non-relational, as the non-relational view might suggest.

(134) A mother was standing at the corner.

Therefore, even when a noun like *mother* is used 'non-relationally', i.e. without its dependent, the underlying concept MOTHER remains conceptually relational. This is so because dropping the optional dependent argument (e.g. *of a boy*) does not also eliminate the necessary conceptual dependency. Note that it is precisely this semantic conception of noun relationality, and in particular the idea that the relation holding between two entities is evoked by the lexical meaning of the relational noun, that has given rise to the idea that the *interpretation* of such lexical possessives is likewise exhausted by this lexical meaning. While I will postpone a closer discussion of this idea until the next section, it is important to note at this stage that my use of the Inherent category includes mostly those nouns which evoke a default inherent relation due to the conceptual base of the possessum noun.

Adopting a semantic-conceptual definition of noun relationality did not, however, completely eliminate any potential methodological caveats. A pertinent problem directly related to this definition concerns the question of when and whether a noun's denotation gives rise to other entities which stand in some conceptual dependency to it. For example, there may be some debate as to whether the noun *holidays* is relational, given that it strongly evokes the presence of holiday makers. In many ways, most entities stand in some conceptual dependency to other entities, and it is difficult to lay down criteria for a clear cut-off point demarcating when such a dependency classifies as strong enough for the noun in question to be classified as relational. Thus, regardless of my stance that the relational vs. non-relational distinction is not use-dependent, I am aware that, like Vikner & Jensen's, my own coding may reflect a certain degree of subjective bias with respect to what I consider to be a relational noun. Unlike my

coding of the co-textual pointer category of Bridging, however, I largely included nouns which gave rise to more obviously stereotypical relational dependencies in the Inherent category.

Despite these methodological caveats, the quantitative evidence shows some interesting tendencies, the most important finding being the complex variability in the presence of contextual support, which I already predicted at the outset of this chapter. In the following, I will turn to some of its theoretical consequences for the lexical vs. pragmatic distinction.

6.5.2 The lexical vs. pragmatic distinction

The corpus study was designed to gather a more systematic idea of how context, broadly construed, facilitates the comprehension of pre-nominal possessives. At the beginning, I outlined two central questions:

1. Which role does the linguistic context play in the determination of salient possessive relations?
2. Do pre-nominal possessive phrases falling into lexical and pragmatic interpretation groups show a significant difference in the way in which the salient possessive relation is explained by the linguistic context?

In an answer to Question 1, the empirical evidence suggests that the linguistic context plays a substantial role in the determination of salient possessive relations. Overall, 92% of all tokens reflected some degree of co-textual support in the shape of various pointer categories.

As far as Question 2 is concerned, the hypothesis that lexical possessives should show less contextual support than pragmatic possessives is indeed largely disconfirmed by this fact. Furthermore, the results suggest that there is no substantive difference between lexical and pragmatic interpretation groups, with most lexical tokens receiving contextual support to a similar degree as pragmatic ones. The notable exception here is the Inherent group, which reflected a comparatively smaller degree of contextual support within the 500 word co-text. Overall, the quantitative evidence nicely underlines the idea that, despite the fact that lexical possessives are usually interpretable without the help of co-textual pointers, it should also not be surprising to find them (see my initial discussion of this in section 6.2.1). This is especially true given my broader notion of context.

The data clearly reflects a certain amount of variability of contextual support. Evidently, contextual support comes in different degrees: it may be present or absent in each of the five groups and differ substantially across individual tokens. What is more, the degree to which contextual support is either present or absent is also variable across interpretation groups. Out of the five interpretation groups, it is the Inherent group which shows the highest degree of

context-‘independence’, whereas all others rely to a greater extent on bridging and other inference triggers. Overall, a vast 92% of all tokens received contextual support of some kind. Thus, if we were to rely on the quantitative evidence and went solely by the criterion of contextual support, we could feasibly retaxonomise possessive interpretations along more pragmatic lines, as in Table 6.6. This retaxonomisation reflects that, apart from the Inherent group, which I will discuss shortly, all other groups show a clear bias towards contextual support:

Barker (1995), Partee (1983/1997)	Possessive relation	Vikner & Jensen (2002)	Kolkmann (2016)
Lexical	Inherent	Lexical	Lexical?
	Part-whole		Pragmatic
Pragmatic	Producer		
	Control		
	Others	Pragmatic	

Table 6.6: Possible retaxonomisation of possessive interpretations

However, this seems premature inasmuch as it casts a rather absolute light on what might be limited to the data at hand. It moreover fails to take into account the variability exhibited by the data. In other words, the presence of contextual support in one token and its absence in another (of the same interpretation group) does not tell us whether the interpretation process relies to a greater or lesser extent on the lexical semantics of the possessum. The second premise of the argument from interpretation may consequently not be suited to characterise the empirical picture adequately.

On the other hand, if we wanted to salvage this premise, the variability of contextual support reflected in the corpus data may be interpreted differently. Firstly, rather than questioning the foundation of the premise itself, it could be that a quantitative investigation of this kind is simply not capable of shedding any light on the question of how implicit meaning aspects are recovered during the process of utterance interpretation. This is indeed possible, as I already discussed as a potential caveat in section 6.5.1. Nevertheless, the corpus data show a number of interesting tendencies, which should be robust given the sample size.

Therefore, a second way of interpreting the results would be to acknowledge that the variability of contextual support is not merely a possibility, but indeed an empirically viable fact. The high degree of contextual explication of the possessive relation would then suggest that context, construed along the lines I propose in this thesis, ought to be afforded a significantly greater role in the addressee’s determination of the possessive relation than Vikner & Jensen’s taxonomisation allows for. Thus, the premise could still be committed to the idea that different degrees of context are required in the interpretation of lexical and pragmatic possessives, but

ought to be reformulated with respect to the *kind* of context it talks about. While this may sound plausible, I believe that the distinction between lexical and pragmatic possessives is implausible from an empirical point of view, rendering the argument from interpretation largely superfluous.

Before I conclude this chapter, I want to briefly return to the fact that the corpus data, aside from the staggering 92% of contextually supported tokens, also contain a non-negligible 8% of tokens which were not found to exhibit any contextual support within the 500 word orbit. The majority of these comprise tokens from the Inherent category. Even if, as I suggested in Figure 6.6, we were to shift the demarcation line between interpretation groups which do and those which do not rely on pragmatic reasoning to cover more than the Pragmatic interpretation group, it would appear more difficult to argue against the clear semantic basis of such (supposedly inherent) interpretations. This is not only reflected by the significant number of not contextually supported tokens in this category, but also, for example, by their narrower degree of interpretational flexibility.

At this point, it is necessary to remind ourselves of the stance I argued for in Chapters 3 and 4, where I suggested that even interpretations which arise in the absence of co-textual support can be explained in fully pragmatic terms. Certain (stereotypical) assumptions may simply be more highly activated and more easily accessible for the addressee. This should certainly always hold for nouns like *mother*, *brother* or *colleague*, given that these are defined by their relational-conceptual nature (see section 6.5.1). A further argument to this effect may be drawn from languages which, unlike English, code the alienable/inalienable morphosyntactically.

For example, in the West Papuan language Abun, alienable possession is expressed overtly by means of the possessive/locative marker *bi*, while inalienable possession is expressed through the juxtaposition of the possessor and possessum nominals. This is thought to be iconically motivated, such that “[t]he linguistic distance between expressions corresponds to the conceptual distance between them” (Haiman, 1983: 782).

Abun (Berry & Berry, 1999: 77-82)

(135) **alienable possession:**

ji bi nggwe
I of garden
'my garden'

(136) **inalienable possession:**

ji syim
I arm
'my arm'

The lack of the possessive marker in inalienable possession might then be explained by the fact that the relational semantics of inalienable nouns is sufficient to explicate the relationship between the possessor and the possessum. Haspelmath (2006) argues that such an iconicity-

based explanation may not be right, appealing instead to an economy-based principle:

“There is a marked difference in frequency of occurrence in possessive constructions: Inalienable nouns (= bodypart/kinship terms) very often occur as possessed nouns, whereas alienable nouns occur as possessed nouns much more rarely [...]. Hence, upon hearing an inalienable noun, hearers can predict that it will occur as possessum in a possessive construction, and overt marking is relatively redundant. This redundancy is exploited in some languages: frequency → predictability → less need for coding (cf. Zipf, 1935).”

These economy considerations could easily be argued to extend to the area of possessive interpretations: inalienable nouns acting as possessum nouns reliably yield default interpretations, whereas alienable nouns display a greater range of candidate interpretations. Hence, upon hearing an inalienable noun in a pre-nominal possessive phrase, hearers can predict that it will yield a default interpretation, and overt explication of this relation is relatively redundant. This argument would be consistent with the corpus data. No cases were found of pragmatic interpretations where the co-text explicates a relation that is different from the one relationally encoded.

In conclusion, the high number of not co-textually supported Inherent tokens remains compatible with a pragmatic conception of inherent relations. In this respect, they do not warrant a theoretical treatment that is different to the other four interpretation groups. I therefore suggest the following, and this time fully pragmatic, retaxonomisation:

Barker (1995), Partee (1983/1997)	Possessive relation	Vikner & Jensen (2002)	Kolkmann (2016)
Lexical	Inherent	Lexical	Pragmatic
	Part-whole		
Pragmatic	Producer		
	Control		
	Others	Pragmatic	

Table 6.7: Retaxonomisation of possessive interpretations

Here, even inherent relations fall under the remit of pragmatic interpretations. Adopting the semantic relational view of nouns I outlined in the previous section, according to which their relationality is determined by their conceptual two-placedness, the relational status of a given noun will not waver in contexts where e.g. *John’s mother* refers to his own mother, and contexts where it refers to somebody else’s mother. Clearly, the possessum noun *mother* remains relational in such cases, but this crucially does not exhaust the interpretation of the NP which contains it.

6.6 Conclusion

This chapter has complemented the qualitative investigation I presented in Chapter 5 by means of a large-scale quantitative investigation of 2,889 possessive NPs. As part of this, I devised a working definition of context that allowed me to investigate features of the linguistic context which promote a possessive referent's construction-internal identifiability. This definition restricted the psychological notion of context to the more tangible *co-text* surrounding possessive NPs in concrete utterance situations. I argued that such *co-text* contains several *pointers*, i.e. linguistically observable cues which plausibly trigger an inference in the direction of a particular possessive relation.

Overall, the previous and the current chapter have provided a more fine-grained picture of the complex ways in which the linguistic context renders a particular possessive relation salient, and thereby helps the addressee to establish mental contact with a salient possessive referent. Thus, not only are possessive referents routinely identifiable by means of referential chains promoted by bridging and text-referential mechanisms, they are also frequently explicated more overtly by means of verbal paraphrases ranging from entirely explicit to more implicit pointers.

The quantitative evidence suggests first and foremost that, when considered in natural language contexts, pre-nominal possessives display a considerable amount of variability with respect to whether the salient possessive relation is co-textually supported or not. In my discussion, I evaluated this tendency with respect to the second premise of the argument from interpretation, according to which lexical possessives should require less contextual support than pragmatic possessives. I suggested that this premise could be salvaged if it incorporated, on the one hand, a more flexible notion of the presence or absence of contextual support and, on the other hand, a broader definition of context which is not limited to explicit paraphrases of the possessive relation. In other words, even if no contextual support appears to be present, salience considerations arising from the addressee's extra-linguistic context should be regarded as guiding her in selecting the most salient possessive relation.

I specifically discussed this tendency with respect to the non-negligible amount of not co-textually supported tokens falling into the Inherent group. The results of the logistic regression analysis indicated that this group differed in a statistically significant way from the other four groups with respect to the presence or absence of contextual support. While tentative, and by no means unproblematic given a certain amount of 'data exegis', I believe that the results should be robust enough to warrant conclusions as to the thoroughly pragmatic basis of possessive interpretations. I thus rejected the plausibility of the lexical vs. pragmatic distinction, arguing in favour of a fully pragmatic reconstrual of possessive interpretations.

Having rectified Vikner & Jensen's intuitive speculations on the basis of largely contrary, empirical evidence, we are now in a position to bring together the numerous insights that have emerged over the course of the previous five chapters. The overall picture suggests that pre-

nominal possessives exhibit interesting characteristics which ought to be reflected in a theoretical description of their interpretation. One of the major insights that will form a central tenet of this description derives from the fact that the interpretability of a possessive NP is not a matter of type-based meaning which is simply decoded on the basis of the lexical semantics of the possessum noun, but depends on token-specific considerations of what is the most likely interpretation in the utterance situation at hand. This applies not merely at the level of salient interpretations, but importantly also at the level of possible interpretations. The next chapter presents a systematic description of possessive interpretation which highlights this insight.

Chapter 7

Towards an account of possessive interpretation in context

7.1 Introduction

This chapter is concerned with giving a principled description of possessive interpretation. It fundamentally addresses the three questions outlined by Peters & Westerståhl (2013) that any theoretical description of possessive interpretation should answer, i.e. how salient possessive relations are made available, selected and render the sentence containing the possessive NP in question meaningful.

It does so by bringing together the most central insights from the previous chapters. To recapitulate, I suggested in Chapter 3 that the notion of *default interpretations* has its place in a description of possessive interpretation since certain interpretations of pre-nominal possessive NPs undoubtedly come with greater regularity than others. On this basis, I argued in Chapter 4 that, from a theoretical point of view, default interpretations are better characterised with respect to addressees and utterance contexts, as opposed to being tied to particular types of NPs or possessum nouns. In Chapters 5 and 6, I considered pre-nominal possessives from a cognitive-functional perspective by taking into account their communicative function as *referring expressions*. Discussing the profiling of a single salient possessive referent in the search for the possessive relation, I demonstrated that, aside from the numerous salience considerations that arise from the extra-linguistic context, the identifiability of the possessive relation is frequently also a matter of a complex interplay of the possessive referent's actualisation in discourse and other types of *pointers* or inference triggers contained within the linguistic context. Finally, underlying all of this discussion has been a cognitively-oriented definition of context. According to this definition, the context is both emergent as well as an integral part of *any* interpretive process. This means that it is not detachable from what Vikner & Jensen (2002) refer to as 'possible' interpretations that supposedly contrast with salient ones.

Making use of the above insights, and in contrast to existing accounts, this novel description does not stipulate different interpretational loci depending on the type-bound interpretation group of the possessum noun. Instead, it attributes all of the inferential work to a single source which uniformly makes salient (candidate) relations available, selects among them and renders the possessive NP-containing utterance comprehensible: the addressee's pragmatic-inferential system.

In its theoretical orientation, my description is based within the relevance-theoretic approach to utterance comprehension. In RT, reference assignment is viewed as being guided by considerations of relevance, the trade-off between cognitive effort expended and cognitive effects yielded (Wilson, 1992; Matsui, 1993; Hedley, 2005; Scott, 2009).¹ While some researchers (e.g. Taylor, 1993; Aitken, 2009) have previously described possessive interpretation in relevance-theoretic terms, they have failed to address the different ways in which a linguistically underdetermined possessive NP may come to denote a referentially determinate entity. The present chapter seeks to fill this gap by outlining a more systematic and psychologically plausible description of possessive interpretation in context.

This description will go under the name of *Head Noun Pragmatics* (HNP) to reflect the importance of pragmatic reasoning in the determination of the possessive referent. HNP views the possessum noun as central in the following two ways. Firstly, at the *compositional* level, it provides access to encyclopaedic assumptions about the *kind* of entity it may denote in the world. It thereby narrows down the range of candidate relations it may enter into with a salient possessor referent. Secondly, at the *referential* level, the possessum noun's relational anchoring to said possessor referent allows the addressee to establish mental contact with the overall possessive referent. Contrary to previous accounts which prioritise the role of lexically encoded information, HNP views the situation-specific utterance context as the overall more dominant determinant in the interpretation process. This is because salient assumptions activated *via* the context contribute to the addressee's identification of the possessor referent and a kind-delimited possessum entity at the compositional level, and the overall possessive referent at the referential level.

From a functional point of view, HNP diverges from the dominant stance according to which the determination of the possessive relation is uniformly necessary for determining the reference of the possessive NP as a whole (cf. Gutzmann, 2010: 9). The interdependency between the determination of the possessive relation and the identification of the possessive referent I established in Chapter 5 will consequently be construed more loosely. Rather than being an inevitable truism, it will be shown to inhabit a continuum: sometimes, the two processes will be intertwined for the purpose of referent disambiguation, as for instance when distinguishing between two salient referents. At other times, one might proceed without the other, as for

¹See section 4.3.5 for a detailed description of Relevance theory.

example when the precise relation is not strictly speaking necessary in order to identify the referent, i.e. because it may be accessible in the context on other grounds.

Finally, from a theoretical pragmatic point of view, this looser conception of the possessive relation's role in possessive interpretation will be argued to have interesting consequences for the currently dominant stance on the process of saturation. According to this, saturation is mandatory not only for an utterance's propositionality (e.g. Bach, 2007, 2012; Carston, 2009; Recanati, 2004, 2010, 2012), but also for its *comprehensibility*. I argue that, in possessive interpretation at least, utterance comprehension can proceed even without the saturation of the possessive relation. Rather, the interpretation and comprehension of pre-nominal possessives appears to take place on a continuum, ranging from the addressee's general and abstract to her more situation-specific and detailed representation of this relation.

The chapter is structured as follows. In section 7.2, I elaborate on a number of foundational concepts from relevance-theoretic pragmatics which constitute important parts of HNP's theoretical machinery. Making direct use of these concepts, section 7.3 presents HNP and how it envisages the interplay between the compositional and the referential level in possessive interpretation. Section 7.4 discusses the theoretical repercussions of the idea that possessive interpretation does not (always) depend on the addressee's selection of a salient possessive relation.

7.2 Key concepts

This section will serve both as an introduction to two theoretical concepts from post-Gricean pragmatics that I mentioned in passing in Chapter 4, and as a critique of their usability for the present description. Before I present HNP, it will be necessary to elaborate on two pragmatic processes which constitute important parts of its theoretical machinery: *free enrichment* and *saturation*.

HNP endorses the prime contextualist stance that linguistic meaning is vastly underdetermining of utterance meaning and that pragmatic inference is required not merely at the level of implicatures, but already at the level of an utterance's *explicit* content.² Thus, in order to bridge the gap between incomplete logical forms outputted by semantic decoding and the full-fledged propositions expressed on specific occasions, a number of pragmatic processes operate to yield truth-evaluable propositions.

In particular, the process of free enrichment involves inferential enrichment which takes place for reasons of informativeness and relevance rather than truth-evaluability. On the other hand, the process of saturation, which I describe in the next section, operates on the basis of overt linguistic material which marks the truth-conditional necessity for contextual completion. Both processes contribute to the proposition expressed (the *explicature* in RT terms), and are

²See, for instance, the works of Bach (1994), Carston (2002), Recanati (2004) and others.

thought to be controlled by the same principles as the computation of implicatures: that is, guided by considerations of relevance, which is something I will come back to in section 7.3.3.³

7.2.1 Free enrichment and ad hoc concept construction

Fundamentally, free enrichment (henceforth FE) is a form of pragmatic enrichment which proceeds on the basis of what Hall (2008: 72) refers to as “pragmatic grounds”: that is, to enhance the informativeness of an utterance or its relevance for the speaker. FE is not strictly speaking an obligatory pragmatic process. Without it, it will usually be possible to determine a full proposition, even though this may differ from the speaker-intended, communicated meaning. Nevertheless, in order to comprehend utterances in their intended way, addressees almost always need to supply unarticulated constituents or modulate underspecified lexical items (e.g. Bach, 1994; Stainton, 1994; Carston, 2002; Recanati, 2004) to arrive at an adequate representation of what the speaker means. To illustrate this, Hall (2008: 72) cites the following examples:

- (137) It’s raining [*in London*].
- (138) Every student [*in my class*] passed the exam.
- (139) Mary is tall [*for a six-year-old*].
- (140) He’s got a [*very high*] temperature.
- (141) It’ll take time [*more time than expected*] to heal.
- (142) The ham sandwich [*person who ordered*] wants his bill.

The respective enriched proposition (in square brackets) constitutes the explicature in each of the above examples. Without this enrichment, examples (137), (138) and (139) would perhaps be truth-evaluable, but not very informative. (140), (141) and (142), on the other hand, need to be enriched in order to ‘make sense’, i.e. for reasons of coherence. Generally, free enrichment is thought to take place as part of the process of arriving at a plausible, or sufficiently relevant, hypothesis about the speaker-intended meaning.

As can be seen from the above examples, FE predominantly contributes to an utterance’s explicature by targeting underdeterminacy at the *lexical* level. This view of lexical underspecification subsumes a view of word meaning as ‘atomic’ or unstructured, with lexical forms mapping onto mental concepts, such that e.g. ‘cat’ means CAT, ‘house’ means HOUSE, etc. Semantically, the meaning of any concept word amounts to its denotation in the world (Carston, 2010: 161). Under this view, concepts encoded by words can be visualised as giving access to ‘mental addresses’ from which different types of information (lexical, logical and encyclopaedic) may

³Note that this view is not unanimously held across contextualist accounts. According to Recanati (2004, 2012), primary pragmatic processes are merely associative and sub-personal, whereas secondary pragmatic processes (the computation of implicatures) are fully inferential and accessible to reflection.

be retrieved. For example, a particular person's mental representation of the noun *drink* might look as follows (based on Clark, 2014: 244-246):

DRINK

- **lexical entry:**

noun,

pronounced / dɪŋk /

- **logical entry:** fluid of a certain type

- **encyclopaedic entry:**

CAN BE ALCOHOLIC OR NON-ALCOHOLIC

MADE ME VERY SICK LAST CHRISTMAS

SHOULDN'T BE CONSUMED DURING YOGA CLASS

MY PLAN IS TO DRINK MORE WATER IN THE NEW YEAR

etc.

The assumption is that, while the logical and lexical properties of the word in question are relatively stable across interlocutors, the encyclopaedic part, which makes up the biggest part of the respective mental address, will differ substantially. For example, my own encyclopaedic entry of the concept DRINK does not contain the information that I should drink more water in the new year, but does contain the information that fluids should not be consumed during a yoga class. This type of encyclopaedic, not semantically encoded information means that, as soon as a concept-denoting word is employed in communication, any relevant subset of this encyclopaedic knowledge may become activated. This can be seen, for example, when thinking about a word's meaning in isolation, e.g. by asking somebody what they associate with the noun *drink*. Depending on the kinds of encyclopaedic information associated with the concept, different speakers will typically come up with different associations.

Of course, language does not usually occur in isolated chunks but is contextualised. What, then, is the role of such encyclopaedic information in communication? Carston (1997, 2002) suggests that a subtype of free enrichment, the process of *ad hoc concept construction*, takes as input activated encyclopaedic information and meaningfully adjusts, in accordance with the addressee's situation-specific expectations of relevance, the encoded senses of lexical concepts. This process creates either a narrowed or a broadened occasion-specific sense thereof.⁴

⁴In a number of cases, the ad hoc concept will constitute both a narrowed *and* a broadened version of the encoded concept. Pertinent examples are the following:

(143) Mary is a bulldozer.

(144) This surgeon is a butcher!

This fine-tuned, speaker-communicated concept is referred to as the *ad hoc concept*. This term reflects the idea that any contextually modified concept is created on the fly by the addressee as and when required to make sense of a speaker's utterance. Ad hoc concepts then amount to more nuanced senses of concepts which arise as a result of encyclopaedic information that is accessed when a given concept-denoting word is encountered. For example, consider the following two utterances:

(145) She was so tired her eyes were all **red**!

(146) Manchester is **flat**.

The intended meaning of the adjective *red* in (145) is likely to be the ad hoc concept RED* (= *a certain shade of blood-shot red*), i.e. a more specialised meaning of the adjective *red* than is expressed by the encoded concept RED. This process is referred to as lexical *narrowing*. Narrowing picks out the set of shades of red which tinge the colour of eyes, which itself is a subset of all the different shades of red. The ad hoc concept FLAT* in (146), on the other hand, is an example of lexical *broadening*. The speaker would not be committed to saying that Manchester is *entirely* flat and that there are no hills at all. Compared to Leeds or Sheffield, for instance, Manchester's landscapes might, however, be said to be sufficiently flat to justify the use of the adjective. Broadening then yields occasion-specific concepts that are conceptually looser than the original concept, as is often the case in figurative language.⁵

Narrowing and broadening are uniformly viewed "as emerging as a by-product of the hearer's search for an interpretation that satisfies his expectation of relevance" (Falkum, 2011a: 119). That is, the construction of ad hoc concepts takes place in line with the utterance context and encyclopaedic assumptions activated by the use of the respective lexical item. Therefore, the occasion-specific senses of *red* and *flat* above would only be triggered in contexts such as the above. They might, however, take a completely different shape in contexts which ask for different senses of the lexically encoded concepts RED and FLAT:

(147) Look at the lovely **red** of this melon.

(148) This table needs to stand on a **flat** surface or else we won't be able to put the wine glasses on it.

In (147), encyclopaedic information of the kind MELON FLESH IS A NICE SHADE OF PALE RED would be activated to the detriment of information such as EYES CAN BE BLOOD-SHOT

Here, the communicated concepts would be BULLDOZER* and BUTCHER*, respectively. Both arise as a result of broadening of the encoded concept to include human referents in the case of bulldozers, and referents who are not engaged in the cutting up of animal flesh in the case of butcher. They will subsequently have to be narrowed to include only certain characteristics of bulldozers and butchers that apply to the subsets of referents now included in the denotation of the original concept. For present purposes, I will disregard this hybrid option.

⁵Other examples of this are instances of metaphor (*You are the cream in my coffee.*), exaggeration (*The queue was a mile long!*) and approximations (*She used to own a hundred pairs of shoes when she was in her twenties!*).

RED resulting from the encyclopaedic entries of both RED and EYES. In (148), information such as HARD SURFACES ARE HORIZONTAL would become activated, resulting in the addressee's derivation of the narrowed sense FLAT**.

To give another example, a speaker's utterance of "I drank too much last night" in a context where last night's party is manifest to both interlocutors will result in a narrowing of the concept to denote the drinking of *alcoholic* fluids. This is so because encyclopaedic information attached to the concept DRINK (especially CAN BE ALCOHOLIC, MADE ME VERY SICK LAST CHRISTMAS) will now typically become activated. Likewise, a speaker uttering the same in a context where last night's yoga class is manifest to both interlocutors should trigger a narrowing of the original concept to denote the drinking of *non-alcoholic* fluids. This would result from encyclopaedic information such as CAN BE NON-ALCOHOLIC, SHOULDN'T BE CONSUMED DURING YOGA CLASS.

Narrowing of this kind then takes place because the addressee will be looking for the most *relevant* interpretation of the utterance as a whole. As part of this, she might be looking for implicated meaning, such that the speaker is now unwell or did not have an enjoyable time at the yoga practice as a result of the excessive drinking. The speaker's utterance should consequently result in optimal relevance on the part of the addressee once the addressee has enriched the word in question in line with her own expectations of relevance.

In contrast to lexicalist accounts (especially Pustejovsky, 1995; Vikner & Jensen, 2002), which attribute much of the information associated with a given concept to its qualia structure, this view of word meaning is committed to the idea that such information is likely to differ across interlocutors depending on what precise pieces of information are stored as part of their encyclopaedic entries. A consequence of this is that the assumptions and knowledge that are/is activated when a certain word is encountered may differ across addressees. In other words, depending on which subset of a word's encyclopaedic entry is retrieved by a given addressee, either from long-term memory or by means of stereotypical association in the context at hand, a specific range of salient assumptions about this concept will be available to the addressee. This may well differ for another addressee, given that encyclopaedic entries can be expected to differ drastically across interlocutors. Consequently, a word's occasion-specific meaning will be determined not by lexically encoded information, but by encyclopaedic assumptions activated by the use of a linguistic expression in context, as well as situation-specific considerations of relevance.

Needless to say, free enrichment of this kind also targets the concepts encoded by the possessor and the possessum noun. In section 7.3, free enrichment will be shown to be relevant at the *compositional* level because it frequently ensures denotational narrowing of candidate referents made available by the possessum nominal. In certain cases, it may also contribute to the identification of the possessor referent. This is the case when the entity it denotes can-

not be assessed through direct reference assignment alone (as in the case of proper name and pronominal possessors), but has to be metaphorically or metonymically enriched *before* its referent can be determined. Before discussing the importance of encyclopaedic information for these processes, I will now briefly outline the standard account according to which pre-nominal possessives are required to undergo pragmatic saturation of the relational variable in order to be both interpretable and comprehensible.

7.2.2 Saturation and procedural meaning: the standard account

Like FE, pragmatic saturation is a process which contributes to the proposition expressed by an utterance. However, while FE is by definition optional from the point of view of an utterance's propositionality, saturation is thought to constitute a *mandatory* process triggered by any context-sensitive variable in the logical form of a linguistic expression. Its obligatoriness derives from the fact that any such variable has to be filled in order for the utterance containing the 'gappy' expression to be truth-evaluable (e.g. Bach, 2007, 2012; Carston, 2009; Recanati, 2010) and therefore comprehensible. The link between an utterance's truth-evaluability and its comprehensibility derives from what Korta & Perry (forthcoming: 12) refer to as *propositionalism*, which they define as

“the idea that the performance (and understanding) of a full speech act like an assertion, a command or a promise involve the expression (and understanding) of a complete proposition.”

This means that, if an utterance falls short of expressing a complete proposition, it will not be truth-evaluable, which in turn impedes its comprehensibility. In the pragmatic literature, pre-nominal possessives have traditionally been considered as a case in point for this: they are semantically underspecified in isolation, giving rise to numerous candidate interpretations, but referentially determinate when used in communication, denoting only a single salient referent. To bridge this gap, addressees are required to saturate the underspecified relational variable marked by the possessive marker in order to determine who or what the speaker is referring to when using a given NP (e.g. Recanati, 2002b; Carston, 2004b; Borg, 2005; Gutzmann, 2010). A sentence containing a possessive NP should consequently fail to express a complete proposition (and so to denote a referent) *unless* the possessive relationship is contextually determined by the addressee. For example, consider the following, uttered by a stranger who you happen to overhear in the street:

(149) **My mother** is German.

Out of context, this sentence is thought to be incomprehensible from the point of view of what it *says* (in the Gricean sense of truth-evaluability). This is so despite the fact that you may

well understand what the individual words may mean not just in isolation, but also as part of the larger, compositional unit of the possessive NP. But, given the lack of context, you cannot assign a referent to it, and so end up with an incomplete, non-propositional fragment of a sentence such as this:

(150) x is German.

This semantic incompleteness approach suggests that, from a communicative point of view, the contextual completion of the missing semantic value constitutes an *obligatory* step in the process undertaken by the hearer in order to arrive at a representation of what the speaker means. In other words, the empty slot in the logical form of the possessive NP must be filled pragmatically in terms of an appropriate contextual value to yield truth-evaluable content. For instance, the semantic contribution of *my mother* would be something like ‘the mother that bears some relation R to the speaker’, where R is a free variable whose value depends on what its utterer means by it. Without the provision of the more specific relation, no reference can be achieved. In Chapter 5, I summarised this interdependency as follows, repeated here as Figure 7.1:

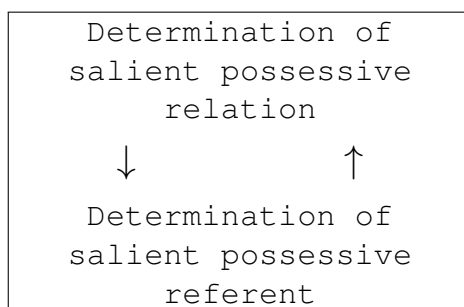


Figure 7.1: Interdependency of the determination of the possessive relation and the determination of the possessive referent in pre-nominal possessives

In order to explain how the saturation process works to render possessive NPs truth-evaluable and comprehensible, a number of theorists (Taylor, 1993; Aitken, 2009) have appealed to the notion of *procedures*. The distinction between conceptual and procedural meaning in effect boils down to a cognitive distinction between two ways in which encoded word meanings may contribute to the inferential process of utterance comprehension. On the one hand, they may contribute constituents of conceptual representation, e.g. full-fledged concepts such as JOHN, MUG, GREEN, KICK, etc. These may, depending on whether or not the context dictates it, undergo processes of lexical narrowing or broadening. On the other hand, they may contribute procedures, which constrain the inferential comprehension process and so steer it into a certain direction.⁶

⁶Well-known cases of procedural meaning include discourse markers (Blakemore, 1987), demonstratives such as *this* and *that* (Scott, 2013), aspects of intonation (Fretheim, 1998), and the more recent use of Twitter-based

A recent proposal of a procedural analysis of pre-nominal possessives is Aitken (2009), who proposes a context-independent procedural semantics of the possessive marker. Aitken (ibid.: 125; my addition) suggests that the possessive marker

“[...] instructs the hearer to represent N2* [...] as part of world N1*, where world N1* is the set of contextual [= encyclopaedic] assumptions stored at the conceptual address activated by the nominal N1.”

The processing of a possessive NP of the form N1*'s N2* in a concrete communicative situation then involves the combination of the concept N1*, which provides access to a set of assumptions (world N1*), with the concept N2*, which provides access to another set of assumptions (world N2*). The procedural semantics of the possessive marker instructs the hearer to include the concept N2* among the set of assumptions associated with the possessor referent. For example, the NP *my mother* would lead the addressee to represent world MOTHER within the world of the speaker, causing her to combine assumptions pertaining to mothers with assumptions pertaining to the speaker. This, in turn, would yield a specification of the relationship between the two concepts and enable the addressee to identify the possessive referent, which may be the mother that gave birth to the speaker. According to Aitken (ibid.),

“[...] assigning reference to [a possessive NP] is dependent on resolution of the kind of relationship that is predicated to exist between the two entities, this being a pragmatic process of relevance-driven inferential computing in context.”

Aitken's stance mirrors Gutzmann's (2010) inasmuch as both view the resolution of the possessive relation as a necessary step to reference assignment. The encoded procedure would then ensure that the hearer does not merely select *any* kind of relation which may in principle hold between two entities; instead, it should constrain the referential space by “reduc[ing] the processing effort required on the part of the hearer by limiting the range of potential hypotheses that must be evaluated concerning the intended meaning” (Hedley, 2005: 5). This means that, when presented with the interpretation of a pre-nominal possessive NP, the addressee will be guided by the procedural semantics of the possessive marker in evaluating only a small number of candidate possessive relations, one of which should eventually lead her to the speaker-intended possessive referent.

7.2.3 Criticism and outlook

While procedural accounts of this kind go a long way in outlining a general schema as to how addressees identify possessive referents in context, they remain relatively schematic. Thus, even though they offer what I believe is an adequate description of the main principle underlying

hashtags (Scott, 2015).

possessive interpretation by couching it in procedural terms, they have little to say in response to Peters & Westerståhl's first and third question.

With respect to the first question, I suggested in Chapter 2 that the determination of salient possessive relations is partly compositional and relies on information from the possessor nominal, the possessum nominal and the context. As far as the compositional level is concerned, Aitken (2009)'s account however offers little insight with regard to the precise contribution of these three sources. It merely suggests that the concept expressed by the possessum noun is integrated into the world of the concept expressed by the possessor noun, which in turn enables the addressee to determine a contextually salient relation between the two. This picture is vague at best and lacks a detailed account of exactly what kind of information is activated during, and integrated into, the interpretation process. By supplementing it with insights from lexical pragmatics, HNP offers a more elaborate description of how the identity of the possessor referent and the contextually-modulated meaning of the possessum nominal may contribute to the determination of the overall possessive referent.

The third question refers to the fact that, as a result of their procedural semantics, pre-nominal possessives contribute *conceptual* information stemming from the possessive relation to the proposition expressed. Once the saturation process has occurred, a fully-fledged, individuated referent is thought to become actualised in the context at hand. Referent actualisation of this kind is then viewed as a direct outcome of the saturation of the relational variable. As mentioned above, Aitken's account is in line with the stance that the saturation of the possessive relation is a mandatory step in the determination of the possessive referent *in every instance of possessive interpretation*. Thus, on the referential level, the procedural semantics encoded by the possessive marker uniformly narrows down the referential space, meaning that a salient possessive relation is provided as a by-product of the search for a possessive referent, which in turn is compatible with an optimally relevant interpretation of the utterance as a whole.

Given their strong commitment to the obligatoriness of relational saturation, procedural accounts presuppose that addressees are in an optimal position to grasp the precise, speaker-intended relation at all times. In this respect, they appear to assume that the identification process underlying the search for the possessive referent is more or less uniform across contexts. This means that the possessive relation should always be straightforwardly inferrable on the basis of salience considerations culled from the linguistic and extra-linguistic context. If this was correct, there should be no other way to converge on the speaker-intended possessive referent other than by way of saturating the possessive relation. Thus, if Aitken was to venture an answer to the question of what a possessive NP-containing sentence may turn out to mean with a certain choice of possessive relation, he would probably say just that: any such sentence will be specific and fully determinate with respect to the meaning of the possessive NP, including the precise nature of the possessive relation and a concise representation of the referent it

denotes.

In the remainder of this chapter, I would like to question both the uniformity of the identification process as well as the tight link between the determination of the possessive relation and the identification of the possessive referent. In light of cases where the possessive relation may remain indeterminate, I will argue that referent identification may proceed by means other than the determination of the possessive relation. Thus, while HNP adopts a procedural semantics for the possessive marker in the same way as previous accounts have done, it is the nature of its saturation which, as I will suggest, has so far been misrepresented and oversimplified. Rather than being specific and fully determinate in every instance of possessive interpretation, the possessive relation will be argued to inhabit different degrees of determinacy located on a continuum, ranging from relatively vague and unspecific to fully determinate. This means that, fundamentally, a possessive NP-containing sentence may turn out to mean something less than fully determinate with respect to the identity of both the possessive relation and the possessive referent. Having established its theoretical foundations, I will now describe how possessive interpretation is envisaged in HNP.

7.3 Towards a pragmatic account of possessive interpretation

To reiterate, I followed Peters & Westerståhl (2013) in assuming that a systematic description of possessive interpretation ought to answer the following three questions:

- What choices for the possessive relation are available?
- How is one selected?
- What does the sentence containing the [NP] turn out to mean with this choice of possessive relation?

I suggested that, apart from knowledge of the denotations of the construction parts at the compositional level, addressees require knowledge of the overall possessive referent at the referential level. To foreshadow HNP's answers to these three questions, which I largely established over the previous four chapters, HNP views the compositional level as the level at which a number of salient candidate relations are made available, and the referential level as the level at which one is selected over another to render the sentence containing the possessive NP meaningful.

HNP's central tenet, setting it apart from the currently dominant view of (possible) possessive interpretations (Vikner & Jensen, 2002), is that *both* types of knowledge are established

by interlocutors not within a pragmatic vacuum, but on the basis of accessible information contained within the extra-linguistic as well as the linguistic utterance context. Rather than being made available by the lexical semantics of the possessum noun and/or the control-encoding semantics of the possessive marker, HNP views candidate possessive relations as arising from the context-specific constellation of a possessor referent and a kind-delimited possessum entity.

At the referential level, the search for an overall possessive referent which satisfies the addressee's expectations of relevance will, in the majority of cases, guide her in selecting one salient relation to the detriment of any others. However, because these expectations are subjective, her grasp of the possessive relation and/or the possessive referent may not always be completely determinate, let alone be guaranteed in the first place. Thus, even though the addressee will normally be in a good position both to determine the salient possessive relation and to establish mental access to the possessive referent, her representation of either may turn out to be more or less granular depending on how accessible information pertaining to their identifiability is in the utterance context.

HNP views the utterance context which facilitates this process uniformly as a *referential frame*. This amounts to a linguistically and situationally emerging discourse context which surrounds the possessive NP-containing utterance and which facilitates the identification of the possessive referent. According to Janssen (2007: 372),

“[speaker and hearer] are assumed to conceptualize a frame of reference on the basis of the information that appears to be relevant at the current stage of the ongoing discourse.”

As I have argued, this information may comprise both stereotypical assumptions activated by parts of the possessive NP, as well as construction-internal and construction-external identifiability mechanisms. At any given point, speaker and addressee form part of a referential frame which may activate occasion-specific knowledge and encyclopaedic knowledge relevant to the determination of the possessive referent. Referential frames then represent a useful way of conceiving of the assumptions and knowledge interlocutors employ in the interpretation of possessive NPs. In the following, I will describe the processes whereby this knowledge contributes to the holistic process of possessive interpretation on both the compositional and the referential level.

7.3.1 The compositional level

The compositional level is the level at which the denotational space of the possessive referent, i.e. the set of potential target entities that may be denoted by the possessive NP, is initially narrowed down. Specifically, it constitutes the level at which a) the denotation of the possessor nominal, b) the occasion-specific sense of the possessum nominal, and c) a number of plausible

candidate relations which may hold between the possessor and the kind-delimited possessum entity, are determined. In cognitive-functional terms, the compositional level is equivalent to the contextualised level of the schematic reference-point relationship as envisaged by Langacker (1991, 1993) that I defined in Chapter 5 and repeat below in Figure 7.2.

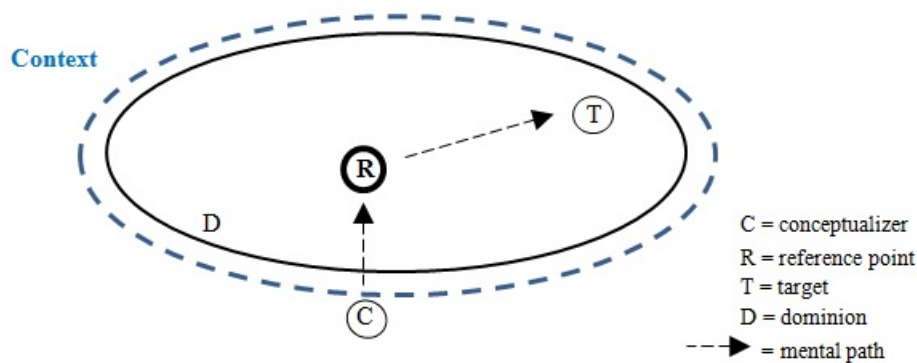


Figure 7.2: The reference-point mechanism at the compositional level

The referential anchoring of a kind-delimited target entity *T* to an individuated reference point *R* (the possessor referent) will typically make available a number of plausible candidate relations, the set of which constitutes its dominion *D*. The dominion's precise content is contingent upon the kind of encyclopaedic knowledge that is triggered as a result of combining two concepts in a possessive NP.⁷

At the compositional level, then, a possessive NP such as *John's drink*, which starts out as being completely underspecified with regard to the denotation of the possessor nominal, the precise kind of possessum entity and the relation which holds between them, will be rendered more specific to make available a set of available candidate relations which may hold between a particular John and a particular kind of drink. It is the level at which the conceptualiser *C* will narrow down the dominion *D* (the set of plausible possessive relations to be evaluated) to subsequently establish mental access with one, maximally salient possessive entity at the referential level.

In HNP, denotational narrowing of this kind proceeds on the basis of occasion-specific knowledge evoked by the utterance situation at hand. For example, while a possessive NP such as *John's drink* may in principle denote any individual called John and any fluid that justifies the label *drink* respectively, the utterance situation will normally disambiguate the precise denotations of the possessor nominal and the kind of entity picked out by the nominal. I will now first discuss how the denotation of the possessor referent is determined and then establish how the precise sense of the possessum nominal becomes fine-tuned in context.

⁷See section 5.4 for an initial discussion of this.

7.3.1.1 The possessor referent

The reason why the identity of the possessor referent should be determined already at the compositional level is that it serves as the reference point (*R*) via which the overall possessive referent is accessed. Because the possessor generally possesses higher situational salience than the possessum at the point at which the possessive NP is used (see e.g. Taylor, 1996), its individuation or actualisation in discourse enables the addressee to establish a number of potential target entities that may be denoted by the possessum nominal. The demarcation of such a dominion will significantly reduce the number of potential referents that are to be evaluated at the referential level. To illustrate this, consider the following:

(151) Have you heard about **John's dog**?

An utterance of this kind suggests that the possessor referent *John* is already activated in the utterance context. This is vital since the precise content of the dominion will depend on the respective possessor referent's identity. For example, if the possessor nominal in the above utterance had been *the fleas*, the conceptualiser would likely have evaluated a wholly distinct set of plausible candidates relations, e.g. the dog whose fur the fleas have taken residence in, the dog who needed to be taken to the vets because of the fleas, etc. Due to the possessor referent's activation in the context, its identity will have usually already been determined at the stage at which the possessive NP is encountered. This may be because the possessor is situationally salient or has been previously actualised in the discourse context (as in the case of pronominal possessors). Alternatively, its identity may be determined as and when it is encountered. Either way, the identification of the possessor referent at the compositional level proceeds by means of reference assignment.

This may proceed *directly*, as in the above example, provided that the individual(s) referred to by the proper name is/are salient in the context. The same would hold for pronominal possessors (as e.g. *his dog*, *my dog*), which by definition refer back to previously activated discourse participants. If the possessor nominal is neither pronominal nor a proper name, but encodes conceptual meaning, reference assignment may in some instances proceed more *indirectly* by presupposing the prior operation of FE processes. Recanati (1995: 35; my emphasis) illustrates this by discussing a possessive NP involving the metonymic use of the possessor nominal:

“Suppose that there has been a ritual fight between respectively five warriors and five beasts. The beasts are a wolf, a lion, a hyena, a bear, and an alligator; the warriors are armed with swords, and carry shields with distinctive decorations (the first warrior has the moon on his shield, the second one has the Eiffel Tower, the third one has the Metro-Godwin-Mayer roaring lion, etc.). Each warrior is assigned a particular beast which he or she must stab to death. After the ritual fight, the five beasts lay on the ground with a sword through their body. This is the context. Now suppose that in this context I utter [(152)]:

(152) Bring me **the lion's sword** - I want to have a look at it.

In this context I think there are two accessible interpretations for 'the lion'; the lion can be interpreted literally as referring to the lion (one of the beasts), or non-literally as referring to the warrior who has (a picture of) a lion on his shield. If we choose the first interpretation, the relation which will be contextually provided will be one of the salient relations which hold between the lion (the animal) and the sword which can be seen emerging from its pierced body. If we choose the second interpretation, the relation will be totally different; it will be one of the salient relations between the warrior and the sword which he used in his fight against, say, the bear.”

Recanati's example illustrates how *semantic transfer*, a type of FE process, may operate on the conceptual content of the possessor nominal. Thus, on the non-literal interpretation, the encoded concept LION needs to be dropped and replaced with another, not extensionally overlapping one so as to be able to refer to the warrior rather than the animal (see also example (142) above).⁸ It is only when this has happened that the addressee is in a position to pick out the speaker-intended possessor referent. Sometimes, the identification of the possessor referent may therefore presuppose the operation of FE processes. Of course, this is not to say that every possessor nominal which encodes conceptual meaning will need to undergo a process of FE before it can be assigned a referent. In more straightforward cases such as *the man's dog*, the possessor NP is likely to be co-referential with a previously mentioned discourse referent, in which case reference assignment would proceed on the basis of this identity relation.

Most importantly, as Recanati himself notes, the identity of the possessor referent is crucial for the kinds of candidate possessive relations that are subsequently made available. Their range is further limited by the *kind* of entity denoted by the possessum nominal, to which I now turn.

7.3.1.2 The possessum nominal

Unlike the possessor nominal, the possessum nominal is non-referring by itself and simply denotes a set of entities, a particular instantiation of which will be picked out by the possessive referent at the referential level.⁹ While the details of this process shall not concern us until the following section, its outcome is not merely contingent upon the identity of the possessor referent, but also, and perhaps more importantly, on the class of entities denoted by the possessum nominal. In other words, *both* play a central role in the determination of a set of plausible candidate relations at the compositional level.

In section 7.2.1, I suggested that lexical modulation plays an important role in yielding occasion-specific senses of many concept words. While the lion example above illustrates how

⁸For the sake of simplicity, I will ignore the details of the semantic transfer process here. For an in-depth discussion of metonymy and the issues surrounding its theoretical description, see e.g. Papafragou (1996), Recanati (2004), Falkum (2011a), Jodłowiec & Piskorska (2015).

⁹See my elaborate discussion of this in Chapter 5.

semantic transfer may operate to fine-tune the meaning of a concept, another form of FE – ad hoc concept construction – may result in a more specific and conceptually narrowed range of a set of entities expressed by the possessum noun. The importance of ad hoc concept construction for possessive interpretation lies in the fact that it operates to fine-tune the meaning of virtually every content word in an utterance, including those encoded by the two nominals in a possessive NP. I will focus my attention here on how it targets conceptual underspecification in the possessum noun. This is, of course, not to say that the same may not also happen on the level of the possessor nominal. In theory, any FE process should be able to target both the possessor and the possessum noun.

To illustrate how ad hoc concept construction may target the conceptual underspecification of the possessum noun, imagine a party situation in which a man, at this point clearly drunk, is struggling to prop himself up on a bar stool. On the bar counter behind him are two half-empty cups, one filled with beer and the other filled with water. Imagine further that Mary, a fellow party-goer who has been watching the comical situation for some time, utters the following to bystander Susie, who has just returned from a trip to the bar:

(153) He really shouldn't have had **his last drink**.

In theory, the possessum *last drink* is compatible with both the cup of water and the cup of beer given that Susie did not witness which of the two drinks John consumed most recently. In this situation, however, given that Mary is watching John and that John's drunken state is manifest to both interlocutors, Susie is likely to modulate the conceptual meaning of the possessum noun *drink*, which denotes the concept DRINK, in such a way as to derive the ad hoc concept DRINK* (= alcoholic drink). Similar to the party context surrounding the utterance "I drank too much last night" I described in section 7.2.1, encyclopaedic information of the kind MAY BE ALCOHOLIC would be activated in this context.

In more general terms, the utterance context should activate any situationally specific and relevant assumptions about the concept expressed by the possessum noun. This, in turn, will help the addressee to reduce the amount of information she will be required to combine with assumptions about the possessor referent in order to conceptualise a salient possessive referent at the referential level.

For example, in the above party context, the possessive NP *John's drink*, with the possessum noun narrowed to denote the ad hoc concept DRINK* and the possessor referent denoting John Smith, may plausibly make available encyclopaedic information such as JOHN LIKES TO DRINK HUGE AMOUNTS OF ALCOHOL, JOHN IS A BARTENDER, JOHN ENTERS COCKTAIL MIXING COMPETITIONS, and several others. If this is the case, candidate relations might include 'the drink that John drank', 'the drink that John mixed', 'the drink that won John the first prize in last year's cocktail mixing competition', and so forth. Possessive relations are then made available not through the qualia structure of the possessum noun or the (control-encoding)

semantics of the possessive marker, but *procedurally* by means of the context-specific relational anchoring of a kind-delimited possessum entity to a referentially determinate possessor entity.

The compositional level is then also the level at which so-called ‘possible’ or default interpretations are determined, reminiscent of the kind of seemingly context-free and isolated interpretations I discussed in Chapters 3 and 4. I therefore assume that the procedural semantics of the possessive marker (Aitken, 2009) already operates at the compositional level. Ultimately, however, even though accessible possessive relations may already come about at the compositional level, the actual relation is determined at the referential level in line with the search for a salient possessive referent. Thus, to come back to example (153), Susie may now have excluded, presupposing that these were activated in the first place, both the non-alcoholic drink from her search for an occasion-specific set of target entities, and male party-goers other than John Smith from her search for a possessor referent. She will now be required to work out the precise relationship which holds between the salient alcoholic drink and the salient possessor John Smith in order to determine the overall possessive referent.

The underlying principle is that, once the addressee has singled out the possessor referent and determined the specific kind of possessum entity denoted by the possessum nominal at the compositional level, she should now be in a position to establish mental contact with the overall, speaker-intended possessive referent. This is facilitated by means of *saturation*, which I will now discuss with respect to how it targets linguistic underdeterminacy of pre-nominal possessives at the referential level.

7.3.2 The referential level

The referential level is the level at which the kind-delimited, but non-referential, possessum entity becomes actualised within its referential frame. Put differently, it is the level at which one salient entity is instantiated from among a set of entities and, thereby, becomes referentially determinate to denote the target entity. This possessive referent combines conceptual information activated by both the possessor referent and the kind-delimited possessum nominal to yield new conceptual material in the shape of the possessive relation.

To show how this may proceed according to Aitken’s (2009) analysis, let us continue to discuss the party scenario and assume that the noun *John* represents N1 and the noun *drink* represents N2, with the referents/concepts expressed by each noun being N1* (the indexical referent John Smith) and N2* (DRINK*), now sufficiently modulated, respectively.¹⁰ These assumptions might include that John likes to drink huge amounts of alcohol and the fact that the drink in question is alcoholic. Upon processing the utterance “He really shouldn’t have

¹⁰Note that, as discussed above, proper names are indexical and work in the same way as pronouns. They are therefore not amenable to lexical modulation in the same way as concept-encoding words. The star notation should be viewed as representing access to assumptions about the identity of the possessor, much like encyclopaedic information about a concept may be accessed *via* its ‘mental entry’ in the lexicon.

had his last drink”, Susie would now be further prompted by the procedural semantics of the possessive marker to include the concept DRINK* among the set of assumptions associated with the referent John Smith. Combining the above assumptions with the physical utterance context, which features John’s drunken attempts at maintaining his balance, the information that enters Susie’s representation of the possessive referent would narrow down the set of relations to a single salient one, i.e. ‘the drink that John drank’ rather than, say, ‘the drink that John mixed’. Thus, the information that John is a bartender would be unlikely to feature in this situation, causing the addressee to choose the former relation to the detriment of the latter.

While HNP aligns itself with Aitken (2009) in assuming a procedural semantics for the possessive marker, it differs in how it views the relationship between the determination of the possessive relation and the identification of the possessive referent. As I suggested previously, Aitken’s account is relatively absolute in assuming that *all* instances of possessive interpretation will involve referential identification *qua* relational identification. I believe that this picture is too simplistic, as procedurally guided possessive interpretation may, as I will now argue, take various shapes and result in various outcomes with respect to the representation of both the possessive relation and the possessive referent. My central argument to this effect will be that the determination of these two levels may proceed *independently* of one another.

7.3.2.1 Varieties of saturation in possessive NPs

The need for a revised notion of saturation in possessive interpretation which views the connection between the determination of the salient relation and the determination of the salient referent as looser falls out from two related observations. Firstly, the possessive relation may remain indeterminate in communication. What I mean by ‘indeterminate’ is that, in order for comprehension to take place, it is often not strictly speaking necessary for the addressee to work out the exact relation which holds between two entities. Secondly, the possessive referent may remain equally indeterminate, without however impeding the comprehension of the utterance that contains it. For example, an utterance of *My mother is German*, as in (149), seems largely comprehensible from the viewpoint of a competent English speaker who lacks knowledge of the specific referent in question, but may be able to fall back on a *default* interpretation of the possessive NP.

In other words, while a speaker using a pre-nominal possessive NP will by and large enable the addressee to determine both a salient relation and a specific possessive referent, making Aitken’s account and the standard picture of saturation applicable to most instances of possessive interpretation, the addressee may equally well end up with a less detailed, looser representation of either the possessive relation or the possessive referent itself, but still be able to comprehend the utterance.

Tentatively, this view of possessive interpretation would suggest that, rather than being an

obligatory step in the interpretation and comprehension of pre-nominal possessives, the exact determination of the salient possessive relation and subsequent determination of the salient possessive referent is only one way of interpreting pre-nominal possessives in context. In some cases, detailed knowledge of the possessive relation may be required for a complete grasp of the possessive referent. In other cases, it may remain vague and unspecific, with the addressee's expectations of relevance satisfied without the determination of a fully determinate possessive relation. Finally, the comprehension of a possessive NP may be possible even without a fully determinate representation of the possessive referent, as in the case of (149).

To approach these different ways in which possessive interpretation may proceed, I believe it is necessary to distinguish between two phases of saturation specific to the interpretation of pre-nominal possessives. Ordinarily, the saturation of a context-sensitive expression, such as a pronoun, results in direct reference assignment. Thus, in order for an utterance like "She is called Mary" to be comprehensible, addressees ought to saturate the pronoun *she* by assigning a referent to it. The same holds for referential possessive NPs. However, if my observations are on the right track, reference assignment in possessive NPs typically involves not one, but two distinct phases of saturation. I will be referring to these as the *relational* and the *referential* phase, and argue that both may be saturated to different degrees.

As their names suggest, the relational phase constitutes the stage at which the salient possessive *relation* is determined, while the referential phase is the stage at which the salient possessive *referent* is determined. Where the standard view predicts their interdependency at all times (see Figure 7.1), HNP is committed to the view that possessive interpretation may proceed on a continuum with varying degrees of interdependency between these two levels. To make sense of this, let us consider the three alternatives as envisaged in HNP.

Alternative I: Referential identification *qua* relational identification

This first alternative is the one commonly assumed in the literature. It predicts that the determination of the possessive relation is vital for the determination of the possessive referent, and *vice versa*. As plausible as this may sound for all instances of possessive interpretation, I believe that the determination of the possessive relation is vital mainly in cases where two salient referents are to be distinguished. As such, it is true of the potential denotata of the NP *his last drink* in (153), which in its referentially indeterminate state is compatible with both the cup of beer and the cup of water. To illustrate this dependency by means of a second pertinent example, consider the below:

The other day, John bought a new pair of trainers, which he left in the living room in its original box. On that day, he also ordered a new pair of work shoes, which haven't arrived yet. This morning, Mary and John are getting ready for work, with Mary sitting in the living room,

eating her breakfast, and John sitting on the stairs in the hallway, putting on his work shoes. The following exchange occurs:

- (154) Mary: You can wear **your new shoes** on Friday!
John: They won't have arrived by then.
Mary: I mean your trainers, not your work shoes.

This exchange contains an interesting misunderstanding. Mary, who is sitting in the living room with John's boxed-up trainers in her field of vision, is clearly intending to make reference to these rather than the new pair of work shoes John ordered. John, on the other hand, is putting on his old pair of work shoes and thereby saturates the possessive relation denoted by *your shoes* in line with the pair of shoes that is presently salient to him, i.e. his work shoes. The determination of the possessive relation is then crucial in securing the speaker-intended reference. In other words, the difference between 'the shoes that you bought and brought home' and 'the shoes you bought and are waiting to be delivered' matters for the addressee to be able to assign the speaker-intended referent to the NP *your shoes*. The difference may be visualised as follows:



Figure 7.3: Relational and referential phase for distinct salient referents

Figure 7.3 shows the two distinct referents (John's new trainers and John's new work shoes) that Mary and John take to be denoted by the NP *your new shoes* in (154). As indicated by the solid arrows, each pair of shoes stands in a conceptually different relationship to John, the respective determination of which during the relational phase will result in the representation of two distinct referents during the referential phase. In cases where two salient referents have to be differentiated, it is then both the relational and the referential phase which play a decisive role in the comprehension of the possessive NP. Crucially, the speaker-intended referent cannot be represented adequately without the correct determination of the possessive relation.

Alternative II: Referential identification without relational identification

Apart from Alternative I, I believe that possessive interpretation may proceed by means of the addressee's identification of the possessive referent *without* the prior or simultaneous determination of the possessive relation. Referential identification without relational identification may be possible when the precise relation is not strictly speaking necessary for the identification of the possessive referent. This is typically the case when only a single referent may be picked out by the use of the possessive NP which is physically salient in the utterance context, as in the following scenario (see section 2.3):

John and Julia are in John's office for a supervisory meeting and are waiting for Martina to join. A large and healthy-looking basil plant, which John tells Julia he was given as a present by a colleague, is the centrepiece of the office, filling the whole room with a nice odour. When Martina enters the room, she can't help but notice the plant, to which Julia replies:

(155) Isn't **John's basil plant** impressive?

The speaker-intended meaning of Julia's utterance, inasmuch as this is paraphrasable, consists of her conceptual representation of the basil plant: it has been given to John by a colleague, he is now looking after it and nurturing it in his office, it is sitting on his desk, and so forth. According to the standard account, Julia's use of the phrase *John's basil plant* triggers Martina's search for the salient referent in line with the utterance context, Martina's background assumptions, etc. Because this is unknown to Martina, the fact that the basil plant was a present from a mutual colleague does arguably not feature in her understanding of the utterance. If Martina determines any possessive relation at all, her representation of it should be relatively loose, perhaps along the lines of 'being physically in front of'. This should, all things being equal, suffice for Martina to adequately secure Julia's intended reference. In this regard, it should also be similar to what an NP containing a demonstrative determiner, such as *this/that basil plant*, might achieve, i.e. to serve as a kind of 'reference vehicle' which secures the addressee's individuation of a single, contextually salient referent.

Viewed in this light, the precise relationship which holds between John and the basil plant may not be required to feature in Martina's representation of the referent. This is so because the salient referent is physically present in the context. This means that it can be identified by means other than the possessive relation which objectively holds between John and the basil plant, given that this is not in any way accessible to Martina. What this suggests is that grasping the speaker-intended content may be dependent to a larger extent on the identifiability of the possessive referent than on the identifiability of the possessive relation.

Consequently, and contrary to what may be necessary to differentiate between two salient referents, as in (154), the above example suggests that referent identification may proceed *with-*

out the prior saturation of the possessive relation during the relational phase. This is illustrated in Figure 7.4:

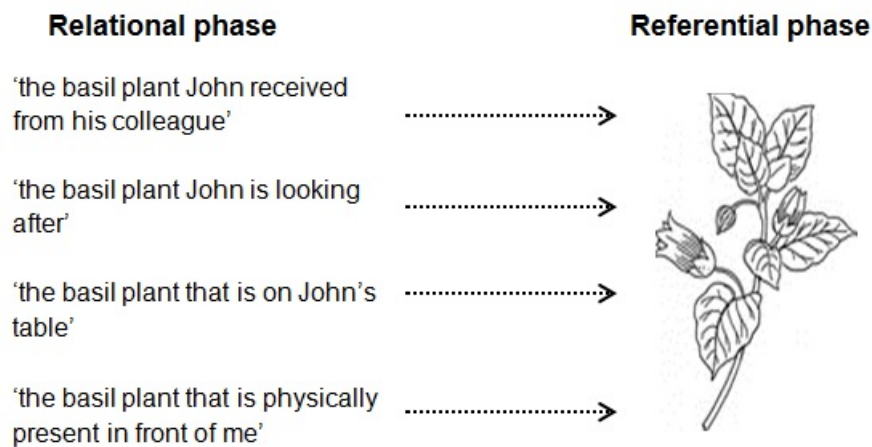


Figure 7.4: Relational and referential phase for a single salient referent

As indicated by the dashed arrows, the precise determination of the possessive relationship during the relational phase may be secondary if said referent is identifiable purely by means of its physical presence in the context and at the same time constitutes the only accessible referent warranting the descriptive content of the possessive NP. From the interlocutors' perspective, the precise relationship which holds between the possessor and the possessum entity (in this case, John and the basil plant) should then be unimportant, given that the reference-point mechanism would under normal circumstances secure reference to the entity in question by means of the exophoric, or non-verbally expressed, relationship between John and the basil plant: that is, regardless of more or less specific background knowledge activated on the part of the addressee. This suggests that, irrespective of which precise relation (if any) enters the addressee's conceptual representation, a possessive referent may be determined by means other than the saturation of a salient possessive relation during the relational phase.

This is not to say that no possessive relation is ever identified in such cases. It could be argued that Martina simply saturates the possessive phrase in a different way to what Julia may have intended. In other words, relational saturation may well take place, albeit presumably at a considerably shallower level which does not include the full spectrum of background knowledge that is available to Julia, but which may also not be required for Martina to comprehend the utterance. Thus, 'shallow saturation' might be sufficient for the purpose of comprehending the utterance, given that any available relation in the context will necessarily lead to the same referent.

Ultimately, it is not clear what precisely happens in the presence of a salient referent, i.e. whether or not a possessive relation is represented by the addressee. Nevertheless, what is apparent is that such instances of possessive interpretation rely less on the saturation of the

possessive relation and more on the identification of a referent during the referential phase.

We have thus far seen two ways in which a possessive NP may provide mental access to a salient possessive referent. These include the saturation of the possessive relation and subsequent determination of the possessive referent (Alternative I), and the determination of the possessive referent either without, or on the basis of very shallow saturation of the possessive relation (Alternative II). Finally, I wish to briefly discuss a third, but so far more speculative, alternative according to which possessive interpretation may proceed even without the full-fledged determination of a possessive referent.

Alternative III: Indeterminate referential identification through default interpretations

As a third alternative, I believe that the comprehension of a possessive NP may be possible even without the addressee's (complete) representation of the possessive referent. To come back to example (149) (*My mother is German*), referential indeterminacy may for instance occur when overhearing a conversation, or in similar situations which do not warrant direct access to the referent in question. In such cases, compositional knowledge may be sufficient to guarantee the addressee's comprehension of the utterance in question.

For example, given the access to a *default* interpretation of kinship derived by the (human) identity of the possessor referent and salient assumptions triggered by the possessum noun *mother*, it should still be possible to imagine and represent a possible referent, e.g. the mother of the speaker, on the basis of one or several such candidate possessive relations. Of course, since arguably no actual referent assignment takes place in such a situation, complete referent identification at the referential phase would not strictly speaking take place. The result of the decoding process would therefore be little more than a propositional fragment. However, full saturation at the referential level may not be necessary for the purpose of 'making sense' of a speaker's utterance.

The lack of concrete identification criteria for the possessive referent falls out from the lack of situationally relevant information which would allow the addressee (or eavesdropper, for that matter) to establish referential knowledge. In cases of this kind, she will typically not be able to position the possessive NP within a concrete referential frame which gives access to information about the specific kind of entity denoted by the possessum noun, or even the possessor referent itself. She will therefore merely be able to guess what the speaker may have in mind, but without any direct access to his intentions. Viewed in this light, if the addressee is in no direct position to establish mental contact with the speaker-intended possessive referent, default interpretations established on the basis of compositional knowledge may represent the *most likely* interpretation in the context at hand, and suffice for comprehension.

As stated above, this idea also tentatively suggests that the compositional level of posses-

sive interpretation may be all that is required for the comprehension of a possessive NP. While knowledge generated at this level would be more speculative than in concrete utterance situations that provide access to more definitive information about the possessum entity, it may reduce to *stereotypical* (as opposed to situation-specific) assumptions. These, however, might be sufficient for a ‘quasi’ representation of the possessive referent.

Thus, while useful for the description of interpretive tendencies triggered by artificial and experimentally constructed examples, I believe that the notion of default interpretations (as defined in Chapter 4) may be more than merely a theoretical construct. Examples of the above kind plausibly suggest that default interpretations play a role in possessive interpretation. They constitute a kind of fall-back option that may lead to a ‘fictitious’ or imagined version of a real-world possessive referent in the absence of any concretely identifiable one. They therefore clearly possess empirical viability.

As such, instances of possessive interpretation falling under Alternative III would be similar to the numerous isolated examples I examined in Chapters 3 and 4. Despite the addressee not being in a position to access any identificatory information about the possessive referent, which ordinarily forms part of a referential frame, the procedural semantics of the possessive marker would nevertheless ensure the activation of assumptions leading to the most probable or stereotypical possessive relation in the context at hand. Naturally, what precisely would count as stereotypical depends on the speaker, the situational context, and the addressee. This conception is fully in line with the *token-based* definition of default interpretations that I delineated in section 4.4 and that underlies the present study.

In section 7.4, I discuss the theoretical repercussions of a view of possessive interpretation according to which the determination of the possessive relation and the determination of the possessive referent may proceed at different levels of interdependency. Before doing so, I will now bring together the insights from the previous two sections to give a systematic account of the overall interpretation process.

7.3.3 The overall interpretation process: a case description

HNP assumes that the possessive marker in the syntactic frame *X’s Y* semantically yields a logical form of the shape $R(N1)(N2)$, with *N1* constituting the possessor referent, *N2* constituting the possessum entity, and *R* constituting the underspecified relation. The possessive marker encodes the procedural instruction to integrate a kind-delimited possessum entity *N2** into the world of the possessor referent *N1**, instantiating *R* contextually by means of construction-internal and construction-external identifiability mechanisms at the referential level.

I will not repeat the details of these two types of two mechanisms here, but limit my description to only a few. To do so, I will discuss a concrete instance of possessive interpretation. The following example, taken from the BNC, contains multiple instances of the possessive NP

her glasses, and will serve as a prime example of how both types of identifiability mechanism operate in context. Plausible salient possessive relations are indicated in square brackets after each NP occurrence.

- (156) He did it again when, leaving her question hanging, he stepped closer, studied her scraped-back hairstyle, then, without so much as a by-your-leave, whipped **her glasses** [*'the glasses she was wearing'*] from her nose – the better, it seemed, to check that her green eyes were the same green he had looked into during the early hours of Sunday morning. ‘My stars, has everybody got you wrong!’ he rapped insolently, pushing **her glasses** [*'the glasses he'd just whipped from her nose'*, *'the glasses she was previously wearing'*] back at her. [...] Leith was sitting stunned, with **her glasses** [*'the glasses he just pushed back at her'*, *'the glasses she whipped from her nose'*, *'the glasses she was previously wearing'*] still in her hand, when a minute later Jimmy rushed in with the papers he'd been to collect. ‘Sorry to be so long – I had to wait for Tom to finish a phone call.’ And, his apology out of the way, ‘I saw Mr Massingham leaving our office – did I miss anything?’ (JY1 561)

Note that the above is taken out of context, which means that the identity of the female possessor that is denoted by the possessor pronoun *her* will have been established at an earlier stage. Nevertheless, upon encountering the NP for the first time (relative to this stretch of text), the addressee (here: the reader) may be envisaged to begin the possessive interpretation process.

7.3.3.1 The compositional and referential level

The initial decoding stage would yield the following logical form, the relational variable R marking the requirement for pragmatic saturation:

her glasses
R(female referent)(set of glasses)

At the compositional level, the procedural semantics of the possessive marker instructs the addressee to relate the possessor referent and the entity denoted by the possessum noun in a contextually salient way. The identity of the possessor referent is unknown when the possessive NP first occurs. However, given the use of the third person feminine pronoun, the possessor referent is clearly a female human being. The kind of entity denoted by the possessum noun can be narrowed to denote spectacles rather than, say, drinking glasses. This is possible because the co-text contains information to the effect that the female referent is *wearing* the glasses on her nose, as opposed to drinking from them or engaging in another activity which involves drinking glasses. The relational anchoring of the kind-delimited possessum entity, below represented as the ad hoc concept GLASSES*, to the salient female possessor referent (FR), will then plausibly

result in a small set of candidate relations. The first constitutes the most accessible relation in this context:

wearing (FR) (GLASSES*)
repairing (FR) (GLASSES*)
selling (FR) (GLASSES*)
designing (FR) (GLASSES*)
...

The possible control and producer relations of wearing, repairing, selling or designing the glasses come about as the *most likely* relations due to stereotypical assumptions activated on the level of both the possessor (= a female human being) and the kind-delimited possessum (= a pair of spectacles). Naturally, these possibilities will differ across addressees. Assuming a model addressee, the most highly activated relation should be a control relation to the effect that the female referent is the wearer of the glasses. It is equally conceivable, although significantly less salient in this context, that she may be an optician who repairs and sells glasses. On a different interpretation, she might be a designer who specialises in the design of glasses. These relations constitute plausible candidate relations because the noun *glasses* is likely to make available contextually salient assumptions such that GLASSES ARE WORN BY HUMANS, GLASSES MAY BE REPAIRED AND SOLD BY HUMANS, NEW GLASSES ARE CONSTANTLY DESIGNED BY HUMANS, and several more. However, given that the co-text clearly biases a control ('wearing') interpretation, it is this relation which should be most accessible to the addressee, with any other plausible relations only weakly, if at all, activated.

At the referential level, the addressee, prompted further by the procedural semantics of the possessive marker, will then restrict the range of candidate relations further by establishing mental access with a single instantiation of the kind-delimited set of plausible target entities. The procedural instruction to the addressee would be to integrate the kind-delimited possessum entity within the referential frame of the possessor referent, instantiating R contextually by means of construction-internal and construction-external identifiability mechanisms.

In the ideal (Alternative I) case, the addressee should, in her search for the referent of the glasses, settle on one possessive relation to the detriment of other, conceptually distinct ones. Her search for this relation should be prompted by the search for the salient possessive referent, which will be possible by means of the two types of identifiability mechanism.

7.3.3.2 Construction-external and construction-internal identifiability mechanisms

How, then, do the two types of identifiability mechanism operate here to guide the addressee in establishing mental contact with a salient possessive referent? The NP *her glasses* is first introduced into the discourse by means of being anchored to a human possessor, therefore reducing its status as a completely new discourse participant. As I argued in section 5.5.3.2, Anchoring

conflates both types of identifiability. In this instance, it renders a close associative relationship between the female possessor and the glasses most likely. While the presence of a human possessor should in theory suffice for comprehension by activating stereotypical information to the effect that PEOPLE WEAR GLASSES, the Predicate-2 pointer ‘whipped from her nose’ strengthens the inference of a wearer-wearer relationship. This is so because it presupposes that glasses need to be worn before they can be whipped from somebody’s nose. The possessive referent is now likely to be fully identifiable both construction-externally and construction-internally in the discourse: it is accessible by the addressee as the glasses that are *worn* by the possessor.

Next, this newly actualised and mentally accessible referent is referred back to twice, strengthening its construction-external identifiability. The co-reference between the second and third and the first mention of the NP also feeds into its construction-internal identifiability at later stages in the discourse. This proceeds on the basis of information surrounding the previous mention(s), which subsequently enters the referential frame, but still singles out the same referent. The co-referential mention of the glasses may then be regarded as resulting in updated referential frames for both occurrences, each with information gathered from and added on the basis of the previous discourse parts. Concretely, the second mention will now incorporate the information that the glasses previously worn by the referent have now been whipped from her nose. The third mention will then integrate this information, as well as the added piece of information that the salient male referent just pushed said glasses back at her.

7.3.3.3 A relevance-driven comprehension process and the granularity of the possessive relation

I established in section 5.4 that possessive interpretation is a *subjectively* construed process, such that,

“[...] in all cases, C [the conceptualiser/addressee] subjectively follows a mental path of access from R [the reference point] to T [the target entity]” (Langacker, 2003: 95; my addition)

This means that, when interpreting a possessive NP in context, interlocutors should by and large converge on the same possessive referent (or some indeterminate representation thereof), but may differ in how precisely they get there. What is the nature of this subjective construal? Fundamentally, given that the pre-nominal possessive construction does not code any specific or objective relation between two entities, the interpretation of any possessive NP requires the addressee to establish mental access to a possessive referent.

From a relevance-theoretic point of view, when faced with the interpretation of linguistic material, including that of possessive NPs, addressees seek to achieve sufficient cognitive effects while choosing a path of least effort. Utterance interpretation is thus relevance-driven,

proceeding in line with the relevance-theoretic comprehension procedure (Sperber & Wilson, 1986/1995), repeated below:

Relevance-theoretic comprehension procedure:

- a. Follow a path of least effort in deriving cognitive effects. Test interpretive hypotheses (disambiguations, reference resolutions, implicatures etc.) in order of accessibility.
- b. Stop when your expectations of relevance are satisfied.

It is particularly the second part of the procedure which predicts that the inferential process may vary in its outcome, given that expectations of relevance vary across individuals and situations. In turn, they may lead to different representations of both the possessive relation and the possessive referent.

Generally speaking, depending on the possessive referent's discourse status, new information about the possessive relation may be added by contextual pointers to refine the conceptual content of the possessive relation. In (156) above, this starts out as relatively stereotypical, profiling a wearer-wearer relationship, and subsequently becomes increasingly more nuanced. It thus goes from WEAR to WORE AND WHIPPED OFF HER NOSE to WORE AND WHIPPED OFF HER NOSE AND PUSHED BACK AT HER. Co-reference in particular, as in this example, may then result in slightly different interpretational 'outcomes' across addressees: that is, the precise way in which the possessive referent is represented may be more or less nuanced.

To illustrate this better, consider also the case of text reference (Willemse, 2005), where summative information established in the co-text prior to the mention of the possessive NP in question may or may not enter the addressee's representation of the possessive referent:

(157) 'You wouldn't have any problems with me,' Polly snapped, glaring at him, her chin high. He said nothing, simply raising his eyebrows. She groaned inaudibly, and wished the deck would open up and swallow her. What she had meant was that there was absolutely no chance of her joining his lists of conquests. But he had interpreted her remark to mean exactly the opposite. (H7W 2020)

The underlined parts in (157) arguably all feature in the referential frame which renders the referent of *her remark* identifiable. As a consequence, saturation at the relational level may proceed at different degrees of granularity, such that the remark will be identifiable along all of the following lines:

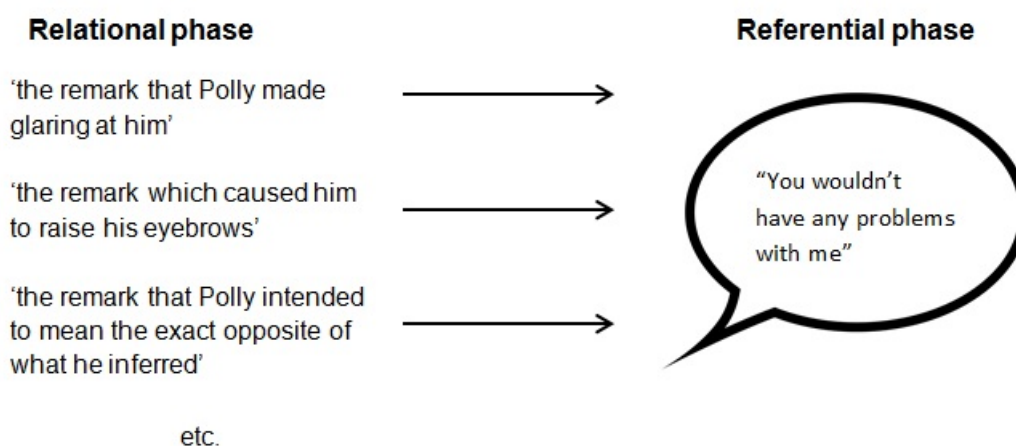


Figure 7.5: Summative referent specification in text-referential possessive NPs

I assume that such relational multiplicity generally arises in cases where the possessive relation is not explicitly paraphrased by means of Predicate-1 pointers, e.g. 'wore the glasses' to paraphrase *her glasses*, or 'made the remark' to paraphrase *her remark*. Thus, given their communicative function as referring expressions, pre-nominal possessive NPs routinely conjure up a whole range of relations which, collectively, characterise the respective possessive referent. What precise information enters the addressee's representation of the possessive relation should, however, be contingent upon the precise way in which she construes the subjective mental path to the possessive referent. Thus, even though the speaker may intend to communicate a wide range of summative information by her use of a possessive NP, it is not necessarily the case that the addressee will represent this in an identical fashion in her selection of a salient possessive relation.

Needless to say, access to speaker intentions may not always be warranted in the first place. A prime example of this, aside from experimentally elicited interpretations, are Alternative III cases. Here, a nuanced representation of both the possessive relation and the possessive referent may be problematic precisely due to lack of access to the speaker's meaning. It may be equally limited for Alternative I cases in certain forms of written communication, i.e. those which do not constitute a direct and purposeful exchange between writer and reader, as e.g. e-mails or letters might. Examples of this are books, journal articles, and any other forms of writing not targeted at a specific individual. The above two corpus tokens may indeed be argued to constitute further instances of such non-direct forms of written communication. These seem to present the addressee with the task of 'reconstructing' what the writer of the text may have meant by using certain linguistic expressions, including pre-nominal possessive NPs. In such cases, the subjective nature of the possessive referent's identification should then be even more apparent.

There is no space left in this thesis to discuss how the distinction between spoken (which is more direct) and written communication affects the accessibility of speaker meaning. However, given that the relevance-theoretic view prioritises the addressee’s expectations (and subsequent fulfilment) of relevance, limited access to the speaker’s intentions does not usually hinder the possessive interpretation process. Fundamentally, the subjective nature of what expectations of relevance are to be met in any given communicative situation neatly explains why possessive interpretation may result in different representations of the possessive relation and the possessive referent. In other words, the relevance-theoretic comprehension procedure predicts that addressees should stop evaluating hypotheses about both implicatures *and* explicatures, at the level of which either would be represented, as soon as their own expectations of relevance are satisfied. Consequently, the possessive relation may be represented at different levels of granularity and, importantly, not necessarily on the basis of explicit cues provided by the speaker of the utterance.

This is certainly true for Alternative II cases. These, as I suggested in section 7.3.2, may enable the determination of the possessive referent, but not necessarily the precise determination of the possessive relation. This is so because not every communicative situation enables the addressee to access the speaker’s intentions by drawing upon explicit linguistic context. In other words, speakers may also mark information pertaining to the identity of the possessive referent in ways other than by means of co-textual explication, which I will now briefly discuss.

7.3.3.4 Uses of pre-nominal possessives

Because pre-nominal possessives are phoric expressions, there are several ways in which they may mark the *locus* of information necessary to identify the possessive referent.¹¹ This applies to spoken and written communication alike. Martin (1992) summarises the system of phoricity as follows:

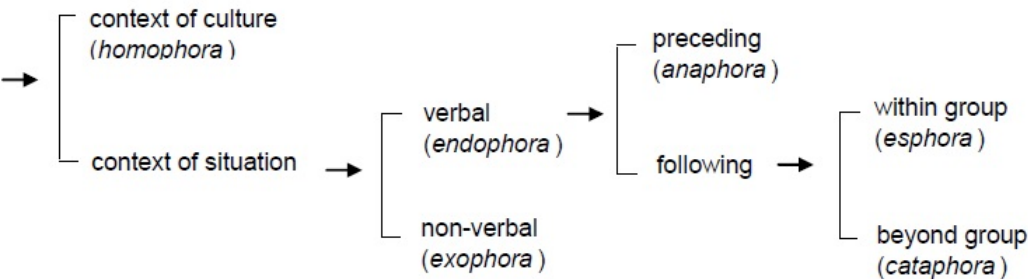


Figure 7.6: The system of phoricity (Martin, 1992: 124, from Willemse, 2005: 92)

In written communication especially, this information is often signposted *endophorically*

¹¹See section 5.3.2 for previous discussion.

via the linguistic co-text, as in the case of anaphora and cataphora.¹² However, and more importantly to the present discussion, it may also be found elsewhere as part of the *non-linguistic* utterance context.

Beyond anaphoric, cataphoric and esphoric links between NP referents, information necessary for the identification of the possessive referent may be found in the context of culture (*homophora*) and the non-verbal context of situation (*exophora*). The former refers to the assumptions and background knowledge shared by any type of community (e.g. family, university course, workplace). The latter refers to the more immediate, but non-linguistic, utterance context. The following two examples are representative of this distinction:

(158) How's **your essay** coming along?
(uttered in a university setting at the end of the academic year)

(159) **Your basil plant** has grown a lot since I last saw it.
(uttered in a supervision taking place in John's office)

The possessive referent in (158) is mutually manifest to the speaker and the hearer due to shared knowledge pertaining to the context of culture (here: the university). Even though the relationship between the essay and the addressee denoted by *your essay* is not explicitly expressed, identification of the possessive referent at the referential level is straightforward due to the salience of coursework within the university context. (159) is an instance of exophoric reference within the context of situation. The referent in question (the addressee's basil plant) is identifiable because it is directly and physically manifest to the interlocutors in the speech situation, much like in (155) above. Examples of a written equivalent are motorway signs (e.g. "Check your distance!") or post-it notes attached to a fridge in a shared kitchen ("Please make sure your food remains on your assigned shelves!").

From the point of view of possessive interpretation, endophoric and exophoric reference work in the same way. HNP views non-verbal cues culled from the context of culture and the non-verbal context of situation, as well as stereotypical assumptions activated by isolated construction parts, as forming part of the extra-linguistic context. This features in the interpretation of utterances to the same extent as the explicit co-textual utterance context surrounding the possessive NP. As previously stated, the referents of *your essay* in (158) and *your basil plant* in (159) are accessible via the extra-linguistic context. They therefore enter interlocutors' referential frames on the basis of their conceptual or physical salience within the utterance context. This is similar to motorways signs asking drivers to check their distance, or notes in shared

¹²The term *esphora* or *within-group* reference, which I have not previously discussed, is defined by Martin (1992: 123) as "forward reference within the same nominal group", referring for instance to post-nominal possessive phrases (see section 1.1). According to Willemsse (2004: 117), "it is a 'forward' relationship since the identity of the referent of an esphoric NP is retrievable through information located further on in the discourse." In the post-nominal possessive NP *the son of a slave*, for example, the referent of *the son* is narrowed down by the modifier *of the slave* to denote a specific son.

kitchens telling users not to leave their dirty dishes in the sink. The assumptions activated by such extra-linguistic reference frames then enter referential frames in the same way as co-textual utterance parts preceding the possessive NP, which falls out naturally from HNP's two-pronged conception of context.

To round off my discussion of the possessive interpretation process, I will now briefly discuss the sentence "He whipped her glasses from her nose" from the point of view of the *overall* process of utterance interpretation.

7.3.3.5 Example of an instance of possessive interpretation as part of the overall comprehension process

As I mentioned at the outset of this thesis, the determination of possessive relations and referents, while interesting in its own right, is only a small subtask in the overall task of utterance interpretation. Therefore, possessive interpretation is guided by expectations of relevance in the same way as the derivation of implicatures and other implicit meaning aspects. At a schematic level, the relevance-guided interpretation process targeting the sentence "He whipped her glasses from her nose", and in particular the two possessive NPs *her glasses* and *her nose*, results in the following interpretation process (as modeled on the basis of Wilson & Sperber, 2004: 263):

(a) Writer said to Reader, “He_x whipped her glasses_x from her nose_x” [He_x = male referent] [her glasses_x] = glasses which stand in some relationship to female referent [her nose_x] = nose which stands in some relationship to female referent	<i>Embedding of the decoded (incomplete) logical form of Writer’s utterance into a description of Writer’s ostensive behaviour.</i>
(b) Writer’s utterance will be optimally relevant to Reader.	<i>Expectation raised by recognition of Writer’s ostensive behaviour and acceptance of the presumption of relevance it conveys.</i>
(c) Writer’s utterance will achieve relevance by explaining what steps male referent took to recognise female referent.	<i>Expectation raised by (b), together with the fact that such an explanation would be most relevant to Reader at this point.</i>
(d) Whipping the spectacles somebody is wearing on their own nose will make one able to recognise somebody.	<i>Assumption to occur to Reader on the basis of construction-external and -internal identifiability mechanisms which, together with other appropriate premises, might satisfy expectation (c). Accepted as implicit premises of Writer’s utterance.</i>
(e) Male referent whipped the glasses she was wearing from her own nose.	<i>Enrichment of the logical form of Writer’s utterance to occur to Reader which might combine with (d) to lead to the satisfaction of (c). Accepted as an explicature of Mary’s utterance.</i>
(f) Male referent whipped the glasses from female referent’s own nose because it allowed him to see her face better.	<i>Inferred from (d) and (e), satisfying (c) and accepted as an implicit conclusion of Writer’s utterance.</i>

Figure 7.7: Schematic description of explicature and implicature formation in the interpretation of *He whipped her glasses from her nose* (based on Wilson & Sperber, 2004: 263)

As the tableau shows, the kind-delimitation of the possessum noun *glasses*, the saturation of the possessive relations, and the determination of the possessive referents are all arrived at by means of the mutual parallel adjustment of contextually salient assumptions, explicit content, and contextual implications. In other words, they are uniformly guided by the addressee’s expectations of relevance (Falkum, 2011a: 123-124).

Before I close this chapter, I will now briefly come back to the theoretical repercussions of the account of possessive interpretation I outlined in this chapter. Most centrally, this features different levels of interdependency between the determination of the possessive relation and the determination of the possessive referent, as detailed in section 7.3.2.1.

7.4 A revised notion of saturation?

Fundamentally, the three alternatives suggest different ways in which the comprehension of a possessive NP may proceed: that is, on the basis of simultaneous relational and referential saturation, as well as resulting from referential and relational saturation alone. In light of this, it appears that the widely held stance on saturation, according to which the possessive relation has to be saturated in order for the (quasi) determination of the possessive referent to proceed, may not be entirely accurate for every instance of possessive interpretation. As I suggested, a two-phase saturation process according to which relational saturation and referential determination are distinct and proceed with different degrees of granularity, may more accurately describe the overall process.

In theoretical pragmatic terms, this would mean that at least one of the two phases is optional when it comes to the interpretation and comprehension of a pre-nominal possessive NP. While speculative until corroborated by more concrete (and potentially experimental) evidence, the argument of the optionality of (some phase of) saturation for possessive comprehension is in line with a recent perspective opened up by Korta & Perry (forthcoming). These present a challenge to the view that saturation, despite being obligatory for the purpose of a context-sensitive sentence's truth-evaluability, is mandatory also for the comprehension of its utterance.

Thus, contrary to the dominant stance, which suggests that the absence of a referent will turn an utterance of (149) into a gappy, non-comprehensible fragment like (150), repeated below as (160) and (161) respectively, Korta & Perry argue that utterance comprehension may take place at a level *prior* to the proposition expressed.

(160) My mother is German.

(161) x is German.

Crucially, their argument hinges on the notion of the *utterance-bound content*. This is thought to be one of many types of propositional content an utterance can express, which amounts to saying that utterances possess different sets of truth-conditions relative to the type of content they express on any given occasion. According to Korta & Perry (*ibid.*: 15),

“...a variety of truth-conditions or contents are set relative to various kinds of facts:

- the utterance-bound truth-conditions; set by the meaning of the sentence uttered plus the fact that an utterance has been produced.
- the speaker-bound truth-conditions; set by the above facts plus the identity of the speaker.
- the network-bound truth-conditions; set by the above facts plus the notion-network supporting the use of a certain proper name.
- ...

- the referential truth-conditions; set by the above facts plus facts about the speaker's intentions and contextual facts that set the values for context-sensitive expressions as well as unarticulated constituents.
- ...

and some other truth-conditions that can be distinguished as the product of all the various facts about conventions, intentions and circumstances involved.”

More specifically, utterance-bound content is characterised as

“[...] the content determined by the knowledge of the language and the fact that an utterance has been made, nothing else. Referents for referential expressions are not assigned, the time of the utterance is not determined and ambiguities are not resolved.” (ibid.: 22)

It is particularly the first set of truth-conditions which, according to Korta & Perry, evidences that saturation is optional in comprehending an utterance. To show that knowledge of the utterance-bound truth-conditions may suffice, they give an example along the following lines (slightly amended from ibid.: 19):

A man, let's call him John Taylor, regularly checks his girlfriend's mailbox after she has moved abroad. On one occasion, he finds the front door open and, upon entering, encounters a mess. Hearing a noise upstairs, he utters:

(162) I'm a cop with a gun, seriously!

The 'complete', fully saturated (= referentially determinate) content of the utterance would be the following:

(163) JOHN TAYLOR IS A COP WITH A GUN.

Now imagine the intruder was to saturate the indexical pronoun *I* in this way and recover the above proposition. Given that John Taylor is clearly neither a cop nor carrying a gun, the realisation of either would not scare the intruder away. It could therefore not possibly be what John intends to convey by his utterance. Instead, he intends to communicate the following:

(164) THE SPEAKER OF (162) IS A COP WITH A GUN.

This, they venture, is the utterance-bound content of (162): it is characterised by the knowledge of the pronoun in question, such that *I* refers to the speaker of the utterance, and the fact that the utterance has been made (by the speaker). In an ideal world, unless the intruder has access to the information that John is not a threat to him, he will now likely attempt escape. If this is the case, his comprehension of the utterance as a whole clearly rests on his comprehension of its utterance-bound, rather than on its referential content. Having derived all the relevant

contextual implications of the utterance, he may safely stop at this level. There is then no need to go beyond it, figure out the referential truth-conditions and/or resolve the reference of the pronoun.

In other words, referential saturation may in certain cases, for pronouns at least, be optional for their comprehension. Of course, the utterance-bound content does not equate to the proposition expressed or the explicature of the utterance, but neither does it need to, since “[u]nderstanding ‘what is said’ [the explicature] is neither necessary nor sufficient to understand an utterance” (Korta & Perry, forthcoming: 24; my addition).

Recanati (2004: 65) refers to this level as the *reflexive proposition*. This, he ventures, is

“[...] determined before the process of saturation takes place. The reflexive proposition can’t be determined unless the sentence is tokened, but no substantial knowledge of the context of utterance is required to determine it. Thus an utterance *u* of the sentence ‘I am French’ expresses the reflexive proposition that the utterer of *u* is French. That it does not presuppose saturation is precisely what makes the reflexive proposition useful, since in most cases saturation proceeds by appeal to speaker’s meaning.”

Stipulating the level of utterance-bound meaning or the reflexive proposition amounts to saying that comprehension can plausibly proceed prior to saturation. It may not be as detailed as it could be if all details of the utterance situation were known (e.g. if the intruder knew that John was himself and not a cop with a gun), but it suffices for comprehension and the derivation of implicatures. Importantly, as Recanati stresses, the reflexive proposition does not require appeal to speaker meaning, which is not always accessible to the addressee.

This view of utterance interpretation is perfectly in line with the predictions made by the relevance-theoretic approach to utterance interpretation. In following the relevance-theoretic comprehension heuristic, the utterance-bound content may be sufficiently relevant for the addressee to offset the expended cognitive effort. In that respect, Korta & Perry (ibid.: 24) conclude, “[t]here is nothing that demands [saturation] to operate at all.” On the contrary,

“[i]nterpreted according to our view, the hearer might well stop at the utterance-bound content, without “going beyond linguistic meaning” and without “resolving referential indeterminacies”, because the utterance-bound content is relevant enough—as in the [cop] example. Or she might go a bit further and stop at the speaker-bound content, or the network-bound content, without going through the process required to fix the referents of referential expressions.” (ibid.)

7.4.1 Possessive saturation

Korta & Perry’s claim is interesting and corroborated by the pronoun example. The idea, for pronouns at least, is that their interpretation can proceed on the basis of relatively shallow

comprehension principles. Coming back to pre-nominal possessives, whose interpretation may remain relatively indeterminate as far as determining the precise possessive relation and/or the precise possessive referent is concerned, an interesting question arises. This concerns whether the shallow comprehension principles that operate, as I suggested, in the interpretation of the basil plant example and the overheard utterance about the nationality of the speaker's mother, are similar to the shallow comprehension principles that may feature in the interpretation of pronouns. In other words, are there cases of unsaturated possessives which are similar to the unsaturated pronoun example in (162)?

Both possessive and pronominal NPs are referring expressions as well as procedural in nature, instructing and guiding the addressee in working out the referent in question. The main difference between the two, however, lies in the small but non-trivial fact that possessive NPs involve a relation between two entities, while pronouns refer directly to the entity picked out by the pronoun. Accordingly, saturation in pre-nominal possessives involves not merely one direct level of saturation from linguistic form (e.g. *she*) to referent (e.g. Mary Smith), but two, comprising respectively the saturation of the relation during the relational phase and the determination of the possessive referent during the referential phase.

Despite this difference, I suggested that there are cases, exemplified by Alternatives II and III, in which only one of the two may be saturated, while the other one may remain relatively indeterminate. What does this mean for their interpretation? Generally, I believe we ought to be careful not to conclude too much from the shallow/non-existing saturation of the relational phase in Alternative II and the referential phase in Alternative III. This is so because, while the saturation of one of these levels may on occasion be less important for comprehension than that of the other, there usually seems to be at least *some* degree of pragmatic enrichment which goes beyond a) the semantic meaning of a pre-nominal possessive NP and b) its utterance-bound content, which presumably amounts to something along the lines of 'the referent of this NP which stands in some relationship to the possessor'. These observations do therefore not in and of themselves threaten the standard account of saturation in the same way as Korta & Perry's pronoun example might.

And yet, granting the possibility of shallow comprehension in possessive interpretation, the question would be to what extent this saturation process, however shallow or indeterminate, is mandatory in the first place. Firstly, if we assume that *relational* saturation can proceed in different ways depending on what salient contextual assumptions become activated in speaker and addressee during the comprehension process, how far off are we from saying that it might not be a necessary precondition for the determination of the possessive referent in the first place? The idea would be, provided that the addressee is in a position to uniquely identify the referent in question, the determination of the possessive relation would simply be a matter of providing additional information rather than being absolutely necessary for the identification

of the possessive referent: that is, it would render relational saturation optional. Secondly, if we likewise assume that fully determinate *referential* identification does not take place in all instances of possessive interpretation, we might want to stipulate that it is optional unless the identity of the speaker-intended referent matters for the comprehension of the utterance.

This slightly more liberal view of how reference assignment proceeds in possessive interpretation, i.e. either with or without the precise determination of the possessive relation or the possessive referent, may be argued to fall out rather naturally from the fact that possessive interpretation is a *subjectively* construed process (Langacker, 2003) guided by addressee-dependent considerations of relevance (Sperber & Wilson, 1986/1995; Wilson & Sperber, 2004). This takes place on the part of the addressee with the ultimate aim of establishing mental access to the salient possessive referent. Due to the subjective nature of the process, expectations of relevance, and in particular at what level of granularity they are fulfilled or judged to be sufficient for identificatory purposes, can be expected to vary. This means that, if the determination of the possessive relation or the possessive referent is not absolutely necessary in promoting the utterance's relevance, they might not be fully represented by the addressee.

To come back to the basil plant example in (155) one last time, if Martina's expectations of relevance are satisfied by establishing mental contact with the target entity *without* her determining any kind of possessive relation, she may well stop the utterance interpretation process. Likewise, if I happen to overhear a stranger uttering "My mother is German" in the street, I may well stop at the level at which I have determined the utterance-bound content of this utterance, i.e. the fact that the utterance has been made combined with the underdetermined meanings of the expression parts.

Unfortunately, there remains no space in this chapter (or indeed in this thesis) to discuss these matters more extensively. However, if correct, a consequence of this view for the current theoretical rendering of saturation would be that it is not entirely accurate when it comes to accounting for cases in which either relational or referential saturation is not absolutely necessary for the comprehension of a possessive NP. The nature of pragmatic saturation certainly deserves consideration beyond the remit of this study, which I will conclude at this point. In the next and final chapter of this thesis, I will briefly recapitulate its main findings and discuss its significance for the study of possessive interpretations.

Chapter 8

Conclusion

In this study, I have sought to provide a descriptively accurate and usage-based description of how semantically underdetermined pre-nominal possessive NPs of the kind *John's book* and *Mary's mother* come to denote concrete referents, such as the book John is reading or the mother that gave birth to Mary, in the real or imagined world. I used both theoretical argument and empirical methodology to examine the argument from interpretation, which had hitherto formed the methodological foundation of studies investigating their semantics and pragmatics. On the basis of a production study and a large-scale corpus investigation, I found that its two premises exhibit only a low degree of empirical validity, with the overall results reflecting significant variability in both the existence of default interpretations and the presence or absence of contextual support. These findings led to me to question the semantic character of most possessive interpretations and to develop a token-based, pragmatic notion of both possible and salient interpretations. Contrary to existing explanations, this recharacterisation is capable of explaining the observed tendencies. It contrasts with the current stance, according to which most possessive interpretations are exhausted by the descriptive content of the possessum noun or other parts of the construction, in adopting a uniform view of possessive interpretations. My own description rejects the distinction between distinct types of possessive interpretations that are derived by different interpretive mechanisms. Instead, it relegates all of the interpretive labour to the addressee's pragmatic-inferential system, which seeks to maximise relevance in utterance interpretation.

8.1 Summary of main findings

At the outset of this thesis, I delineated four central questions which guided my investigation:

1. What intra- and extra-constructional sources do possessive interpretations arise from, and what is their theoretical status as interpretations that arise 'by default'?

2. What is the role of context and pragmatic reasoning in possessive interpretation, and how might it be operationalised for the purpose of an empirical investigation?
3. How are particular possessive relations selected in specific communicative situations, and what is the relationship between the determination of salient possessive relations and the determination of salient possessive referents?
4. How may all referential uses of pre-nominal possessives be described in a unified and theoretically parsimonious way?

In previous research, only the first question had received any noteworthy attention, while all others had received either very speculative and unsatisfactory answers, or none at all. The present study represents the first of its kind to address the various pragmatic aspects of the pre-nominal possessive construction that are paramount for a holistic picture of how it works from a communicative point of view. I will now briefly sum up the main findings that have evolved over the past seven chapters.

8.1.1 Intra- and extra-constructional sources and the default nature of possessive interpretations

The present study has placed heavier emphasis on extra-constructional sources such as pragmatic reasoning, the linguistic and extra-linguistic context as well as notions of discourse structure, in the determination of possessive relations. I argued that, while the possessum noun and the procedural semantics of the possessive marker trigger considerations of what is the most likely interpretation, their lexical semantics does not exhaust the interpretation or meaning of any pre-nominal possessive NP. It is therefore not the lexical vs. pragmatic/the alienable vs. inalienable distinction which determines the range of possible interpretations, but addressee-dependent salience considerations and notions of stereotypicality. Thus, a possessive NP's intra-constructional parts should be regarded not as determining concrete possessive interpretations, but as activating salient assumptions during the interpretation process which help to delimit a plausible range of candidate interpretations. These, in turn, feed into the determination of salient interpretations at the referential level.

The default character of possessive interpretations was undeniably borne out by the empirical investigation, with a relatively stable range of conceptually distinct relations provided by the majority of participants. However, *contra* Vikner & Jensen's narrow construal of what constitutes a default interpretation, I suggested that the empirical evidence is better couched in token- as well as addressee-dependent terms. Possessive default interpretations (PDIs) are therefore not bound to a certain type of possessive NP, but stem from variable and changeable assumptions about the conceptual combination of a possessor referent and the kind of entity

denoted by the possessum noun. Thus, while PDIs possess empirical validity, their theoretical rendering, as I have demonstrated, is better characterised in fully pragmatic terms: that is, on the level of individual contexts and interlocutors.

8.1.2 Pragmatic reasoning, context and its operationalisation

Falling out from the above findings, the role of pragmatic reasoning and context has received greater attention in this study than previous research has deemed necessary. I argued that the interplay between syntactic composition, semantic structure and extra-constructional pragmatic reasoning can be simplified by relegating most of the workshare to the addressee's pragmatic-inferential system. Thus, on the level of the extra-linguistic context, it is particularly considerations of defaultness and stereotypicality that play a significant role in the determination of possible and salient interpretations. On the level of the linguistic context, I suggested that the possessive referent's anchoring within a given discourse and several more tangible co-textual clues, or pointers, guide the addressee in determining possessive relations.

As such, the context constitutes an interesting variable for both qualitative and quantitative investigation. The present study has employed a cognitively oriented notion of context, according to which it is emergent rather than static, and chosen by the addressee during the process of utterance interpretation. It therefore largely reduces to saliently activated assumptions that come into play during any interpretation process, including the interpretation of artificially constructed examples. As part of the corpus study I presented in Chapter 6, I furthermore devised a working definition of the context. This sought to operationalise linguistically observable sub-features of the co-text which plausibly steer the possessive interpretation process. I characterised these pointers as inference triggers and found that, when adequately delineated, they lend themselves to a quantitative investigation of salient possessive interpretations.

8.1.3 Relation selection via referent determination

I argued that the central step which sets apart the level of possible interpretations from the level of salient interpretation is the selection of one possessive relation over any other(s) that may be activated in a given context. Because pre-nominal possessives are referring expressions, I suggested that this step is frequently facilitated by the search for a salient possessive referent. This is identifiable by means of its actualisation as a discourse referent and via its relationship to a salient possessor referent. I referred to these two types of identifiability mechanism as construction-external and construction-internal identifiability respectively. The determination of the possessive relation is therefore directly linked to the determination of the possessive referent, and *vice versa*.

However, as I argued in Chapter 7, from a communicative of view, the selection of the

possessive relation may not always be mandatory. Thus, referent identification may be possible by means other than by determining which precise relation holds between the possessor and the possessum. The interdependency between these two processes should therefore be construed as looser, the implications of which I will take up again briefly in section 8.2.

8.1.4 A unified description of possessive interpretations

One of the main issues with Vikner & Jensen's account of possessive interpretations was its complex array of interpretational sources which are tied to different intra-constructional parts of the possessive NP. While they seemed largely plausible from an intuitive point of view, I have sought to provide a simpler and more theoretically parsimonious description of possessive interpretations which views them as uniformly guided by the addressee's expectations of relevance. Adopting the token-based notion of possessive interpretations I summarised above, I developed a novel account of what as well as how possessive relations are initially made available, how one is selected to the detriment of others, and what the sentence containing the possessive NP turns out to mean with this choice of relation (Peters & Westerståhl, 2013).

This account, which I labeled *Head Noun Pragmatics*, directly addresses these three questions. In particular, HNP is committed to the idea that possible possessive relations are initially made available at the compositional level by means of addressee-dependent salience considerations of the possessum entity's most likely dominion. The selection of one salient relation to the detriment of any others then proceeds at the referential level by means of construction-internal and construction-external identifiability mechanisms. Finally, the sentence containing the possessive NP should usually turn out to mean whatever is compatible with the addressee's expectations of relevance. This may either be a concrete and specific representation of both the possessive relation and the possessive referent, or something less than this, assuming that the addressee is still capable of comprehending the utterance.

In all, I demonstrated that, by exploiting insights from relevance-theoretic pragmatics, it is possible to give a more unified description of possessive interpretations which does not need to stipulate the existence of distinct relational loci.

8.2 Implications of the findings

First and foremost, the present study has provided a better understanding of how pre-nominal possessive NPs work in communication. Throughout, I have placed emphasis on the fact that pre-nominal possessives are only one of many examples of how interlocutors bridge the gap between the underdetermined semantic content of utterances and their determinate propositional forms. Pre-nominal possessives are thus interesting from the point of view of their function as

referring expressions because they represent an important linguistic device that interlocutors employ in order to establish mental contact with referents in the world. In this respect, the insights of the present study are important for our understanding of reference more generally. Furthermore, they have several implications for existing accounts of possessive relations, as well as for the theoretical notion of saturation.

To begin with the former, one of the central tenets of the present study is its uniform character. Crucially, it rejects the plausibility of the distinction between lexical and pragmatic, or inalienable and alienable interpretations. On the contrary, it regards possessive interpretation as a subjectively construed process which takes place on the basis of addressee-dependent considerations of relevance. This means that any objective categorisation of what possessive relations are possible is relatively redundant. In other words, if we accept that pre-nominal possessives are semantically underspecified, and that their main function lies in their ability to facilitate the identification and accessibility of mentally represented referents, the need for taxonomies of possessive relations is largely obviated. This applies not merely to existing descriptivist accounts (see section 2.1.1), but also to generative accounts. Thus, even though conceptual categories such as Inherent, Part-whole, Producer and Control are useful from a theoretical point of view, it is not clear whether they possess any viability beyond their use as descriptive categories. At the practical level, it remains doubtful whether they are represented in any obvious way during the interpretation process. More so, they seem to draw upon the same interpretive mechanisms in communication. This finding is much in line with Langacker's (1991, 1993) account of reference-point constructions, which prioritises their pragmatic function over their precise semantic content.

What is more, this study has highlighted the importance of pre-nominal possessives for pragmatic theory. In particular, it has opened up a discussion of the nature of saturation and its role in communication. A largely theoretical concept, saturation has to date been described as a mandatory pragmatic enrichment process which has to operate at the level of explicit content to yield truth-evaluable propositions. I argued that this may not be true when it comes to the determination of the possessive relation. My suggestion of a two-stage saturation process, which views the saturation of the possessive relation as an optional step in the determination of the possessive referent, seems to characterise the interpretation process more accurately. Given factors such as insufficient access to speaker's meaning, the subjective nature of reference determination and the unboundedness of contextual factors feeding into the interpretation process, an 'absolute' characterisation of saturation may be too strong to capture the nuances of possessive interpretation.

To do these finer details justice, I explored a recently initiated line of enquiry into the optional nature of saturation (see Korta & Perry, forthcoming). In particular, I discussed whether the interpretation of possessive NPs may proceed on the basis of their utterance-bound content.

Contrary to the interpretation of pronouns, I suggested that this usually seems to involve at least some degree of pragmatic enrichment. My discussion of these matters was, however, far too speculative to yield any more definitive conclusions regarding the nature of saturation. And yet, if my line of argument is correct, a recharacterisation of its current theoretical rendering may be in order to capture more accurately the subtleties of reference assignment in utterance interpretation. This certainly deserves attention beyond the remit of possessive interpretations.

8.3 Open questions and future research

As I hope to have demonstrated, English pre-nominal possessives constitute a fascinating resource for research on the grammar/pragmatics interface. While this thesis has contributed novel insights to this area, it also left unanswered a wealth of questions which will no doubt provide fruitful avenues for future research.

For example, despite my commitment to the default character of many possessive interpretations, I did not investigate how they come about in online comprehension. Many experimental pragmatic studies have thus far found Levinson's type-based default account to be implausible from a processing perspective (e.g. Noveck & Posada, 2003; Noveck & Sperber, 2004; Bezuidenhout & Morris, 2004; Breheny et al., 2006). None of these have, however, included pre-nominal possessives in their list of potential implicature triggers. In particular, a study into the time course of possessive interpretation would be useful to test the processing implications of the relevance-theoretic and the Levinsonian picture. What is more, it would be able to establish whether the distinction between lexical and pragmatic interpretations, which I discounted on predominantly theoretical grounds, manifests itself in online comprehension. In sum, even though the present study has made a right step towards rectifying the lack of empirical evidence, more work in this area is needed.

Furthermore, I suggested in the previous section that, from a theoretical point of view, a more thorough investigation into the role played by the addressee's determination of the possessive relation is needed in order to adequately characterise the notion of pragmatic saturation. If saturation really is optional from the point of view of an utterance's comprehensibility, it will be necessary to demarcate how it is to be distinguished in any systematic way from the process of free enrichment.

Finally, this thesis has been limited to the investigation of pre-nominal possessives. As I set out in the introduction, these are only one of numerous attributive possessive constructions in English. In particular, it will be important for future research to delineate more concisely the semantic contribution of different possessive markers. While the pre-nominal possessive marker appears to be largely instructional in nature, i.e. not limited to a conceptually restricted taxonomy of possessive relations, the post-nominal marker *of* appears to be more specific. For

example, it can express dimensions of weight and constitution (e.g. *a bag of rice*, *a dress of silk*), which appear to be barred for use with the pre-nominal possessive marker (e.g. **rice's bag*, **silk's dress*). On the other hand, the semantic contribution of the two markers appears to be largely the same in alternations such as *John's parents* and *the parents of John*.

It remains an outstanding question whether the possibility for alternation is due to the semantics of different possessive constructions, or whether certain possessive NPs should not be regarded as expressing possession in the first place (see Peters & Westerståhl, 2013 for an initial discussion of this idea). This issue first and foremost concerns practical aspects in the investigation of possessive relations in the English genitive alternation (e.g. Rosenbach, 2002). Unless the precise semantic content of different possessive markers, which Rosenbach (2014: 229) recently described as “the ‘toughest nut’ to define of all the factors in genitive variation”, is clearly demarcated, it will be difficult to establish the precise role played by the relations they express. However, if we are to trust the evidence I presented in this thesis, which ultimately views possessive interpretation as a subjectively construed process that does not rely on the decoding of semantically encoded content beyond the (drastically underspecified) contributions of the possessive NP's parts, this constitutes an endeavour which is likely to remain unfulfilled.

In all, the study of possessive interpretation is important both in its own right and as a window into how aspects of the grammar work in unison with the interlocutor's pragmatic-inferential system to render linguistic expressions intelligible. The way we bridge the gap between the underdeterminacy of grammar and the nuanced meanings we communicate with every word we speak is certainly one of the most fundamental aspects of linguistic comprehension. I hope to have contributed to its understanding in a small way by means of this study.

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Corpora

Examples of usage taken from the British National Corpus (BNC) were obtained under the terms of the BNC End User Licence. Copyright in the individual texts cited resides with the original IPR holders. For information and licensing conditions relating to the BNC, please see the website at <http://www.natcorp.ox.ac.uk>.

Examples of usage taken from the COBUILD *Bank of English* were quoted directly from Willemse (2005).

Software

The production study in Chapter 3 was carried out in *LimeSurvey*.

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The statistical analysis of the corpus data in Chapter 5 was carried out in R.

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