THE *WITH*-PHRASE THEME IN ENGLISH: ARGUMENT OR ADJUNCT?

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Abstract

This thesis is concerned with themes, defined in the Gruber/Jackendoff sense, which are expressed in PPs headed by *with*. Themes are generally considered to be canonical objects, but the themes of certain verbs are expressed as *with*-phrases. The grammatical relations assigned to *with*-phrases, and themes in particular, are described for three different syntactic frameworks: Lexical-Functional Grammar, Relational Grammar and Role and Reference Grammar. In each framework, *with*-phrases which refer to themes are shown to be more argumentlike and have higher grammatical relations overall than other types of *with*-phrase, such as comitative and attribute *with*-phrases.

Further distinctions among *with*-phrase themes can be made by observing their behaviour in several syntactic tests. The results of the tests indicate that theme *with*-phrases which alternate with direct objects, and those which are obligatory, are more argumentlike than other theme *with*-phrases. Three categories of *with*-phrase themes are identified: argument, adjunct and intermediate.

The *with*-phrase themes of a select group of verb classes qualify for argument status despite their syntactic expression as PPs. They can be compared to the passive *by*-phrase or the transfer of possession *to*-phrase, both of which are semantic arguments. The group of argument *with*-phrases comprises the themes of the Present, Pelt, Swarm, Bulge, Group and Mix verbs.

These themes, being arguments, are assumed to map to the OBL(IQUE) function in LFG, but the mapping from semantic roles to syntactic functions characterized in the Lexical Mapping Theory (LMT) of LFG does not predict this. *With*-phrase themes are problematic for standard LMT, which maps themes onto bare NPs (OBJ$_\theta$). This thesis proposes a modification to the mapping principles so as to allow for *with*-phrase themes. The differences between the three categories of *with*-phrase are naturally captured in the modified LMT by analysing them as OBLs, optional OBLs and ADJ(UNCTS), depending on their argument status.
1 Introduction

This thesis focuses on *with*-phrases that express themes of motion and location. The term ‘theme’ has been used in various ways in the literature, so clarification is required here. I wish to avoid a too-broad definition of theme such as the one cited and dismissed by Levin and Rappaport (1988:17): ‘the NP which is assigned its theta-role directly by the verb’. This definition is in any case useless when talking about prepositional phrases (PPs). I will use a definition of theme due to Gruber (1965) cited by Jackendoff (1990a:46) as: ‘the object in motion or being located’. Themes can be further divided into ‘motion themes’ which refer to objects in motion, and ‘location themes’ whose location is asserted but no motion is predicated. However, as this thesis is concerned with *with*-phrases, it does not include themes of change of state because these themes are not found in *with*-phrases.

This thesis will investigate the various types of motion theme and location theme *with*-phrases to ascertain their level of argument status. This may not be confined to the dichotomy of argument and adjunct: the grammatical relation hierarchy may be seen as a continuum, or there may be further fine-grained distinctions at the adjunct end of the hierarchy.

Some motion and location theme *with*-phrases can be considered to be arguments of the verb that they appear with, and some are merely modifiers or adjuncts. A theme, as a core thematic relation, is a semantic argument, even if it is expressed as a PP. Furthermore, a PP may also have properties of a syntactic argument, for example, obligatoriness. A verb like *present* requires a recipient and theme, and the theme can appear in a *with*-phrase:

(1) The mayor presented Helen *with a medal*.

This would seem to provide evidence that some motion and location theme *with*-phrases are arguments.

Another indicator of the argument status of some theme *with*-phrases is that they can alternate as object of the same verb. This characteristic, as well as obligatoriness, applies to verbs like *present* mentioned above. Because the object of the *with*-phrase appears in another variant (a synonymous clause) as the direct object of the verb (as in (2)), it can be assumed that this noun phrase (NP)\(^1\) has a close association with the verb and is an argument of the verb.

(2) The mayor presented a medal to Helen.

\(^1\) I will use the term NP throughout to include DPs as well.
It can also be assumed that when this NP appears in a *with*-phrase in the alternate variant, it is still an argument despite its prepositional marking.

Another distinction that can be made between *with*-phrases is the meaning of the preposition *with*. In some instances where *with* marks an argument, it could be said that it is merely acting like a case-marker. It indicates the relation of the NP in the PP to the verb, but it does not add any semantic content in the way that a preposition normally does. This is similar to the recipient *to*-phrase where the verb selects a recipient argument and assigns the preposition *to*.

(3) The clown gave the sweets to the children.

In this case, the preposition does not have the normal directional meaning of *to*. Instead the preposition points to its object NP as an argument of the verb.

In other uses, the preposition *with* does have semantic content. To make it more interesting, the semantic content of *with* is not limited to only one meaning. *With* can mean an accompaniment as in (4), or an instrument as in (5):

(4) John went to the cinema with Bill.
(5) John whacked the ball with the bat.

Therefore, this diversity of usage can also result in different categories of *with*-phrase. It could be that all instrument *with*-phrases are arguments and all accompaniments are adjuncts (or vice versa). Or it could be that all meaningful instances of *with* are adjuncts and the ones without semantic content (such as the case marker in (1)) are arguments. In order to find out how the categories of argument and adjunct *with*-phrase are defined, the different classes of motion theme *with*-phrases need to be tested.

First, Chapter 2 looks at PPs in general from the point of view of three different syntactic frameworks: Lexical Functional Grammar (LFG), Relational Grammar (RG) and Role and Reference Grammar (RRG). It will be seen that PPs have different characterisations in each of these frameworks, and that no framework lumps all PPs in the same category of grammatical relations. Each framework is able to distinguish between argument and nonargument PPs, or term and nonterm PPs in RG. Since it is accepted that different PPs can be linked to different grammatical relations, then it could also be true that different *with*-phrases are assigned to different grammatical relations as well. In other words, there is not a uniform analysis of all PPs headed by *with*.

Chapter 3 looks more closely at various types of *with*-phrases including motion and location themes in the different frameworks. It is shown that indeed different *with*-phrases can be linked to different grammatical relations in each theoretical framework. Of course, each framework will
do this differently and draw the line in different places, but it is clear that some *with*-phrases are more like arguments than others. *With*-phrases that express themes are often assigned grammatical relations which are arguments rather than adjuncts across all frameworks. However, this differs among frameworks, for motion theme *with*-phrases are always arguments in RRG, always adjuncts in LFG, and sometimes arguments and sometimes adjuncts in RG.

Next, Chapter 4 focuses on the argument status of motion and location theme *with*-phrases. This chapter reviews in detail the empirical evidence for the argument or adjunct status of the *with*-phrases of each class of verbs. As well as evidence from alternations with subject and object, traditional tests for argument or adjunct status are applied to the *with*-phrases of each class of verbs. This data will help to categorise the different kinds of *with*-phrase which express motion and location themes, identifying exactly which *with*-phrases are arguments and which are adjuncts, and possibly ranking further distinctions in between. It is shown that the *with*-phrases of a number of verbs, including *present* are arguments, those of another group are more like adjuncts (including *hit* and *inscribe*), and those of a third group including *fill*, *equip* and *load* have properties of both arguments and adjuncts.

In Chapter 5, an analysis of *with*-phrases in LFG is proposed. This framework enables a formally explicit description of the syntactic structure of the *with*-phrase. It also allows for both argument-type and adjunct-type grammatical relations to apply to PPs, although it must be said that the current theory of mapping semantic arguments to grammatical functions does not predict that *with*-phrases are syntactic arguments. Therefore it is the task of this chapter to resolve this mismapping, and this is achieved by refining the mapping theory to include these mappings of *with* to argument functions.

By means of this examination of the *with*-phrase, this thesis aims to determine the argument status of the motion and location theme *with*-phrases, and to identify the verb classes which take argument *with*-phrases. It also aims to provide an analysis of certain *with*-phrases as OBL(IQUE), an argument function in the framework of LFG. The hypothesis is that, in most cases, motion and location theme *with*-phrases are arguments of their verbs in spite of their oblique marking. In these phrases the preposition *with* serves merely as a case marker and has no semantic content. This is comparable to the recipient *to*-phrase and the agent *by*-phrase, which are considered arguments by most linguists.
The Status of Prepositional Phrases in the Scheme of Grammatical Relations

2.0 What are Grammatical Relations?

Grammatical relations are the relations between constituents and the predicate of the clause that they appear in, or each constituent’s relation to the clause (Primus, 1993:686). These same relations are also known as grammatical functions, syntactic relations, syntactic functions and syntactic arguments (Comrie, 1993:911). Theories of syntax differ in the grammatical relations that they propose, but the commonly cited grammatical relations are subject, object, indirect object and adjunct. Subject and object are the two most discussed relations; they occur most often in syntactic processes, and they tend to be unmarked morphologically. I will refer to the object in a monotransitive clause as the direct object. For its part, the indirect object is defined in different ways depending on the theoretical viewpoint. This term indirect object may be used to describe the recipient to-phrase, which I will refer to as the to-object, or the first object in a double object construction, which I will refer to as the inner object. I will refer to the second object in a double object construction as the outer object.

Other constituents of the clause are labelled in various ways in different theories. Among these are prepositional phrases (PPs), some of which may be classified as oblique arguments, and others which have a weaker relationship with the verb and these may be labelled adjuncts. Adjuncts are non-arguments, and therefore less likely to be involved in grammatical processes. Despite the name of grammatical or syntactic relations, in practice these terms are not confined to purely syntactic relations. Prototypically, grammatical/syntactic relations refer to purely syntactic relations which in English are subject, object and the two objects in a ditransitive clause. These are syntactic relations because they subsume a number of different semantic roles (Blake, 1994:2). For example, a subject may be an agent, a dative, a patient of state, or a patient of change (Givón, 1995:226). Givón defines grammatical cases as those which admit more than one semantic role (1995:226). Although Givón uses the term case he cites the examples of subject and object, which are grammatical relations. However, apart from the pure syntactic relations, the term grammatical relations is also used for semantic roles such as source and location, if there is some formal criterion to separate them (Blake, 1994:2). These so-called grammatical relations may in fact be unrelated to the verb: they may be adjuncts to the clause. The question as to whether a particular NP has a purely syntactic or purely semantic relation to the verb in the clause is a key issue in this thesis.
2.1 The Motivation for Grammatical Relations

2.1.1 Intermediary between thematic relations and syntactic expressions

Grammatical relations have been posited at least since Panini’s grammar of Sanskrit as a way to express certain generalisations about a language or languages. The use of terms like subject and object have helped to make the expression of these generalisations simpler. It would be difficult to state certain grammatical rules purely in terms of semantic relations or surface structures.

Since there is no direct correlation between thematic relations and the cases or prepositions used in surface expressions, grammatical relations are employed to link them. These grammatical relations do not correspond directly either to semantic roles or to case marking or other syntactic expressions but rather, they are used as a bridge or intermediary between semantic roles and grammatical cases.

Fillmore’s Case Grammar (1968) attempted to relegate grammatical relations to the level of surface structure and to use only semantic roles like that of agent and patient to assign arguments to their syntactic positions (or case marking). But there is no consistent one-to-one mapping between semantic roles and grammatical expression (Givón, 1995:227). Indeed, it is claimed that a subject can bear any semantic role at all, and the only restriction on objects is that an agent may not be realised as a grammatical object (Dik, 1981:76). In consequence, the need for grammatical relations arises to explain why there is not a one-to-one correspondence between thematic roles and case marking, word order and other surface expressions (Perlmutter and Postal, 1977).

Attempts have been made to find the rules which link or map thematic roles to surface syntactic expressions. Gruber (1967; 1976) was the first to produce a list of thematic roles and try to relate them to the arguments of verbs. Fillmore (1968:24-25) also created a list of thematic roles, but these were partially based on surface markings of case (Palmer, 1994:5). However, one of the problems with thematic roles is that their definitions are imprecise (Rappaport and Levin, 1988:8) and an incorrect assignment of semantic roles can lead to incorrect predictions for grammatical relations. To solve this problem, Rappaport and Levin (1988:15) proposed a Predicate Argument Structure (PAS) with variables representing the arguments of a predicate encoded to show their syntactic position. These same arguments are represented in lexical-semantic form in lexical conceptual structures (LCS) where thematic relations are defined (Rappaport and Levin, 1988:24). Linking rules map between arguments in the LCS and arguments in the PAS, which is an intermediate level between the semantic representation and syntactic structure of the sentence. Rappaport and Levin’s PAS is one possible solution, but different theories of syntax have devised other linking mechanisms which relate thematic relations to their surface expression via grammatical relations.
2.1.2 Universal Attributes of a particular Grammatical Relation

Another reason for the positing of grammatical relations is to highlight the universal properties of a particular grammatical relation, such as subject. Numerous studies have explored the roles of grammatical relations and, in the majority of languages, the characteristics of subjects are very similar. While there is no universal definition for subject, there are cross-linguistic generalisations which apply to this grammatical relation.

In most languages, the subject is the most privileged grammatical relation, meaning that it is the most accessible to grammatical processes. For example, only the subject can be the target of control. It can be concluded then, that despite some differences in the characteristics of subjects in different languages, the notion of subject does have cross-linguistic, if not universal, relevance. The direct object also has a common role, for example as the target of passivisation and the dative shift, and the focus of applicative constructions.

The fact that these grammatical relations exhibit similar attributes in many languages supports the notion of grammatical relations as a valid linguistic entity.

2.1.3 Relation-changing processes

The third motivation for grammatical relations is the need to formulate certain syntactic operations. In many languages there are operations whose inputs and outputs can only be expressed as grammatical relations. One example is the passive, which can be described universally as the demotion of the subject and the promotion of the object (Perlmutter and Postal, 1977). With passive sentences, it is desirable to maintain the semantic labels of agent and patient, even though the patient is now the syntactically privileged argument (Palmer, 1994:15). In order to describe passive sentences, subject and object must be divorced from agent and patient.

Another example of variation between thematic roles and surface expression is the locative alternation. In describing the same event, either the theme or the locative can appear as the direct object, and the other argument is expressed in a prepositional phrase:

(1) a. Bill spread the toast with butter.
   b. Bill spread butter on the toast.

It can be assumed that each NP has the same role in the event in (1a) and (1b), the only difference being that they have different grammatical relations in each sentence. The thematic role is the same, but syntactic expression is different and this is due to a change in grammatical relations.

These kinds of processes can be called relation-changing processes, but without referring to grammatical relations, it is difficult to formulate these processes elegantly. It is not simply a matter of movement, for the crucial result of the process is the change in grammatical relations.
Therefore, this effect also creates a need for theories of syntax to refer to and account for grammatical relations. In the following account, three theoretical frameworks of syntax are introduced, focusing on their interpretation of grammatical relations. In this discussion, it is assumed that thematic roles are given, and based on this the mapping from thematic roles to grammatical relations is described. The mechanism for executing relation-changing processes in each theory is also introduced.

2.2 Lexical Functional Grammar

Lexical Functional Grammar (hereafter, LFG) is a generative theory of syntax which does not make use of transformations or derivationally related levels of structure. Instead it has several parallel structures which represent different information about a sentence. Each kind of structure has its own primitives and rules, and the structures map on to each other by projection functions (Falk, 2001:22-24). Functional structure (f-structure) is the level where grammatical functions are represented (Falk, 2001:11). Other syntactic levels in LFG are argument structure (a-structure) and constituent structure (c-structure) (Falk, 2001:22).

While c-structure represents the external structure of a sentence in a particular language, f-structure is a model of internal structure which is largely universal (Bresnan, 2001:45). Grammatical functions unite all the expressions which behave alike under the mappings to argument structure (Bresnan, 2001:95). The grammatical functions of f-structure abstract away from the syntactic units like NP and VP found in c-structure (Bresnan, 2001:94).

2.2.1 The Functions

In the early stages of LFG, grammatical functions were assumed to be primitive, that is, they are not derived from anything (Bresnan, 1982b:283). More recent work, (Bresnan and Moshi, 1990:166; Bresnan and Kanerva, 1989:24) holds that grammatical functions are not primitives of the theory, but they are primitive in categorial terms. This means that grammatical functions are primitives within f-structure and they cannot be defined in terms of other structures, or other concepts within other structures. However, they can be reduced to functional properties, that is the restricted and objective properties explained in §2.2.2, and these properties are primitive (Bresnan, 2001:98).

The functions used in LFG are shown on the hierarchy below which is adapted by Bresnan (2001:96) from Keenan and Comrie’s hierarchy of grammatical relations (Keenan and Comrie, 1977:66).
The subject (SUBJ) and the two kinds of objects (OBJ and OBJ₀) are core functions, and these functions are normally bare NPs or have nominative or accusative case, and are involved in more function-based phenomena (Falk, 2001:58). Non-core functions are often marked by prepositions or oblique case marking (Bresnan, 2001:96), the oblique function (OBL) being realised as a PP in English, while COMP is a function realised as a clause (Falk, 2001:57). Below are some examples of the grammatical functions in English sentences:

(3) John put the book on the desk.
   SUBJ OBJ OBL

(4) John sent flowers to Mary yesterday.
   SUBJ OBJ OBL ADJ

(5) John sent Mary flowers.
   SUBJ OBJ OBJ₀

The grammatical functions can also be classified as argument or non-argument functions. Argument functions express the arguments of a predicate, and this includes all the functions on the above hierarchy except adjuncts (ADJ). Argument functions may be either core or non-core functions (Falk, 2001:60), but non-argument functions are always non-core functions. ADJ is a non-argument function, and other non-argument functions include FOCUS and TOPIC (Falk, 2001:58), these two – FOCUS and TOPIC – being discourse functions, along with SUBJ. SUBJ is the only function that is both an argument function and grammatical discourse function (Bresnan, 2001:98).

2.2.2 Assignment of Functions

The assignments of functions are based on Lexical Mapping Theory (Bresnan, 1994; Bresnan and Kanerva, 1989) and the grammatical function of each constituent is determined by its place on the thematic role hierarchy in combination with two semantic features (Bresnan and Kanerva, 1989). The first semantic feature is restrictedness in semantic role [r], and the second is the ability to complement a transitive predicate [o]. SUBJ and OBJ are both semantically unrestricted [−r]; any thematic role may be realised as one of these grammatical functions. However, SUBJ and OBJ differ in the objective feature: OBJ is able to complement a transitive verb while SUBJ is not. With two features and two possible settings for each, there are, in fact, four permutations for subcategorisable grammatical relations (See Table 2.1 below). The
secondary object\textsuperscript{1}, OBJ\textsubscript{0}, is semantically restricted, and only appears in double object constructions (Falk, 2001:106) but not all languages have OBJ\textsubscript{0} as a function: languages without ditransitive verbs, for example, do not have secondary objects (Bresnan and Moshi, 1990:167). The last of the four subcategorisable grammatical relations is the oblique argument (OBL), a restricted argument which cannot complement a transitive predicate.

\[
\begin{array}{|c|c|}
\hline
\text{role} & [r] & [o] \\
\hline
\text{SUBJ} & - & - \\
\text{OBJ} & - & + \\
\text{OBJ}_0 & + & + \\
\text{OBL} & + & - \\
\hline
\end{array}
\]

Table 2.1: The semantic features of grammatical functions in LFG’s Lexical Mapping Theory

The thematic hierarchy also plays a role in LMT. In this hierarchy, agent is the highest role, followed by beneficiary, then recipient or experiencer, instrument, patient or theme\textsuperscript{2}, and with location as the lowest role (Bresnan and Kanerva, 1989:23).

\begin{equation}
\text{(6) \hspace{1cm} Thematic hierarchy in LFG }^3
\end{equation}

agent > beneficiary > recipient/experiencer > instrument > patient/theme > locative

The argument with the highest thematic role is labelled theta-hat (Bresnan and Kanerva, 1989:24) – Bresnan and Kanerva call it the ‘thematic subject or logical subject’.

Mapping from thematic roles to grammatical functions is a three-step process. First, each thematic role is mapped to a particular feature in a-structure: patients and themes map to [-r], ‘secondary’ patients and themes\textsuperscript{4} map to [+o] and all other roles map to [-o] (Falk, 2001:107).

For example, agent is [-o] because an agent can never be an object; it will either be the subject or an oblique (Bresnan and Kanerva, 1989:25). In the second step, morpholexical operations apply, if required. Morpholexical operations are those operations such as passive, which suppresses theta-hat. Finally there are the SUBJ mapping rules:

\begin{itemize}
  \item Formerly known as ‘OBJ\textsubscript{2}’ (Bresnan and Kaplan, 1982).
  \item Bresnan and Kanerva define patient as ‘the locus of the effect’ and theme as the entity which is moved or located (1989:24).
  \item Other versions exist from various authors.
  \item In English, Themes which are not also Patients (Falk, 2001:106). See §3.1.1.
\end{itemize}
(7) a-structure to f-structure mapping (Falk, 2001:108)

   SUBJ Mapping 1: a [-o] argument which is theta-hat maps to SUBJ
   SUBJ Mapping 2: [-r] may map to SUBJ
   NonSUBJ Mapping: Add positive values of features wherever possible

NonSUBJ mapping only applies if the role does not already have a negative value for that feature. It cannot change the values of these features. Two well-formedness conditions ensure that every verb has a SUBJ (this condition applies to English at least), and each thematic role has one and only one grammatical function (Function-Argument Biuniqueness) (Bresnan, 2001:311).

As an example, take the verb *put* which has three arguments:

(8) Put < Agent, Theme, Location >
    [-o]  [-r]  [-o]

In the lexicon, the verb *put* appears with its subcategorisation expressed in intrinsic semantic features, not thematic roles or constituent-structure terms. Agent is [-o] and the highest thematic role so it maps to SUBJ. Theme now cannot map to SUBJ, so it is assigned [+o] and maps to OBJ. The other [-o] argument is assigned [+r] under the rule of non-SUBJ mapping which adds positive values of features wherever possible (Falk, 2001:108):

(9) Put < Agent, Theme, Location >
    [-o]  [-r]  [-o]
    [-r]  [+o]  [+r]
    SUBJ  OBJ  OBL

Therefore location is an OBL, specifically, OBLloc.

The Completeness and Coherence Conditions on f-structure ensure that all and only the subcategorised grammatical functions appear in the surface expression of the sentence (Bresnan, 2001:63). The Completeness Condition requires all functions specified in the PRED feature to be present in f-structure and the Coherence Condition requires all functions in an f-structure to be selected by the PRED feature (Falk, 2001:63).

2.2.3 Relation-changing processes

As stated above, LFG does not make use of transformations or derivational levels. Therefore relation-changing processes cannot be expressed as syntactic remapping in this theory (Bresnan, 2001:76). Instead these phenomena are handled in the lexicon. LFG postulates the Principle of
Direct Syntactic Encoding in a statement of this form: ‘All grammatical relation changes are lexical’ (Bresnan, 2001:77).

Earlier work in LFG characterised the passive as a remapping of the grammatical functions in the active form (Falk, 2001:94). Active and passive verbs had their own distinct entries in the lexicon, and each lexical form listed its arguments as grammatical functions (Falk, 2001:94). While the active verb had both SUBJ and OBJ functions, the passive verb, being intransitive, did not have an OBJ function. The active and passive forms of a verb were related by a mapping of their arguments (Falk, 2001:94). Passivisation in English was formerly stated with a three-part rule:

(10) Rule for passive in early LFG of 1982 (quoted in Falk, 2001:94)

(↑SUBJ) → Ø
(↑OBJ) → (↑SUBJ)
Morphology: passive participle

The expression of the passive in terms of grammatical relations was first formulated by Perlmutter and Postal (1977) in the exposition of Relational Grammar (see §2.3 below). It does seem to be a universal characterisation of passive which applies to languages like English as well as other languages where passivisation cannot be described configurationally, or as movement (Primus, 1993:696).

As an example, take the verb kissed (Bresnan, 2001:77), which has an active and a passive variant:

(11) kissed: ‘kiss < (↑SUBJ) (↑OBJ) >’ active
(12) kissed: ‘kiss < ((↑OBLap)) (↑SUBJ) >’ passive

The active verb is transitive; it has a subject and an object as in (11). In the passive version (12) the oblique argument is optional as indicated by the parentheses. The passive verb has only a subject and an optional non-core argument.

Current accounts of LFG do not analyse the passive as a direct remapping of the grammatical functions. Relation changes are characterised as lexical alternations in predicate-function mappings (Bresnan, 2001:26). As previously, active and passive verbs have their own distinct entries in the lexicon, and the forms are lexically related by a rule (Bresnan, 2001:77). Now each verb form is listed with its arguments identified by their semantic feature, usually either [-o] or [-r]. The passive verb, being intransitive, has one less argument. The current analysis of passivisation can be described as the suppression of the subject, stated as the rule:
Under this analysis of passive, the agent in the passive version is not mapped to the syntax, but it may appear as an ADJ. This differs from the former analysis which held the passive agent as an OBL. The status of the passive by-phrase as an ADJ or OBL is still a point of controversy (see §3.1.3.1).

(14)  kissed: ‘kiss < [-o], [-r] >’ active

(15)  kissed: ‘kiss < [-r] ’  passive

The active verb is transitive – it has a subject and an object as in (14). However, the passive verb has only a subject (the [-r] argument maps to SUBJ) and an optional adjunct as in (15).

2.2.4 Summary

The concept of grammatical functions is central to LFG and the functions are comprehensive and well developed in this theory. The fact that LFG has a separate structure for functional information (functional structure) and that, before LMT, grammatical functions were listed in the subcategorisation of lexical items (verbs) shows the importance of grammatical functions in this theory. Notably, LFG distinguishes two types of direct object: a semantically unrestricted object and a less common, semantically restricted one.

In LFG, PPs may be categorised either as OBL if they are arguments or ADJ if they are not arguments. This provides a useful distinction between two kinds of PP which could be applied to the analysis of with-phrases.

2.3 Relational Grammar

As indicated by the name, grammatical relations play a key role in Relational Grammar (RG) which is a theory of relation changes developed in the 1970s by David Perlmutter and Paul Postal. RG works with grammatical relations as its units and grammatical relations are taken as absolutely primitive in this theory: they have no derivation and no decomposition.

Grammatical relations are initially assigned to NPs and PPs according to their thematic roles, and are then revalued by rules to create a new arrangement of grammatical relations at a subsequent level. In this respect RG differs from LFG because it has multiple levels or strata which represent the status of grammatical relations after revaluations.
2.3.1 The Relations

RG identifies three terms numbered 1, 2 and 3. 1 is the subject, 2 the direct object and 3 the indirect object which corresponds to the to-object in English. This is also the order in which the grammatical relations appear in a basic English sentence. The terms are ranked in a hierarchy (16) as indicated by their numbers, and below them on the hierarchy are obliques - relations such as instrumental, locative and benefactive (Blake, 1990:1). However, the total number and nature of oblique relations has still not been determined (Blake, 1990:1).

(16) Hierarchy of grammatical relations in Relational Grammar

1 2 3 obliques

In RG the to-object is a term. Its status is of the order of subjects and objects (a numbered term) and it is higher than the obliques, distinct from all other PPs. The status of the to-object in RG contrasts with that in LFG and RRG, for the latter two theories assign a non-unique label to the to-object, roughly oblique argument, a label which can be assigned to other PPs if they are arguments. The number 3 in RG is uniquely assigned to the to-object – it does not apply to any other PP.

Evidence for the term status of the indirect object includes its ability to be represented as a clitic in some languages such as French (Blake, 1990:28). On the other hand, there are also clitics in French for non-terms such as direction. Some properties of terms are not exclusive to terms and may be shared by obliques. Cross-linguistic evidence shows that the relation encoding the recipient of give has more term-like features than any other relation except the terms 1 and 2 (Blake, 1990:28).

2.3.2 Assignment of Relations

As in LFG, grammatical relations are initially assigned to NPs and PPs based on the thematic roles of the event participants. The Universal Alignment Hypothesis of early RG (Perlmutter and Postal, 1984: 97) posited a universal mapping of thematic roles to grammatical relations. In this system, an agent, experiencer or cogniser would be labelled 1, a patient5 2, and a recipient 3. Later this hypothesis was found to be untenable in its strong form, but useful as a general principle (Blake, 1990:24).

For example, a transfer of possession necessarily involves three participants; therefore all three RG terms are used:

(17) John sent a letter to Mary.

5 = affected entity (Blake, 1990:170)
This clause can be illustrated in the **relational network** in Figure 2.1, where the predicate and each argument have their own nodes:

![Figure 2.1 Relational network for John sent a letter to Mary](image)

The initial stratum must contain the agent as 1, the theme as 2 and the recipient as 3. Any alternative surface expressions are derived at subsequent strata, as described in §2.3.3.

### 2.3.3 Relation Changing Processes

After the assignment of initial relations, relation changes are recorded as the result of rules applied at each stratum. A bistratal or multistratal relational network produces an alternative syntactic expression of an event. For example, the event described in (17) has the alternative expression:

(18)     John sent Mary a letter.

This sentence must be derived from the basic clause in (17) because of the initial assignment of grammatical relations. Therefore, this clause has two strata in its relational network (Figure 2.2).

![Figure 2.2 Relational network for John sent Mary a letter](image)
The initial stratum represents the initial assignment of grammatical relations (17) and the final stratum represents the double object construction (18). In the second stratum, the recipient is promoted from 3 to 2. It will be expressed as the inner object. Since there can only be one 2 at each level (Stratal Uniqueness Law, Perlmutter and Postal, 1983:92), the initial 2 (the theme) becomes a \textit{chômeur}.

\textit{Chômeur} is a relation unique to RG. This relation refers to elements which have been demoted from term status. Although a chômeur is often realised identically to an oblique (as a PP in English), its status is not the same because a chômeur, unlike an oblique, cannot be revalued as a term (Blake, 1990:7). Such a possibility is precluded by the Chômeur Advancement Ban (Perlmutter and Postal, 1977). It should be noted that constituents that appear in surface expressions as PPs may be obliques (that is, initial and final obliques) or they may be chômeurs.

\subsection*{2.3.4 Summary}

The strength of RG is its ability to characterise relation-changing processes in the simplest form. RG has demonstrated the importance of grammatical relations to syntax, and their status as an independent level of representation, irreducible to purely syntactic or semantic elements. It has also solidified the concept of a hierarchy of grammatical relations. Finally, it has introduced the important idea of chômeur, a term that is revalued as a nonterm, and made it distinct from other nonterms.

It is significant that RG allows the possibility of a PP being a term, even though this is confined to the \textit{to}-object. Apart from the \textit{to}-object, a PP in RG may bear the relation of either an oblique or a chômeur. Both these options are available to the \textit{with}-phrase, as will be demonstrated in §3.3.

\section*{2.4 Role and Reference Grammar}

Unlike RG, Role and Reference Grammar (RRG) is a monostratal theory (Van Valin and LaPolla, 1997:21). In this theory, syntactic structure is called the layered structure of the clause (\textit{LSC})(see Fig.2.3). In addition to the LSC, there is a semantic representation, Logical Structure (\textit{LS}), a system of lexical decomposition. The positions of arguments in logical structure correspond to thematic relations, which in turn are linked to semantic \textit{macroroles}. Macroroles and Logical Structures are universal, but LSC is language specific (Van Valin and LaPolla, 1997).
The layered structure of the clause (LSC) in RRG embodies syntactic structure. The LSC identifies the predicate, the core arguments and the items in the periphery. The core contains arguments, which may be NPs (direct core arguments) or PPs (oblique core arguments), and argument-adjuncts\(^6\), and the periphery contains adjuncts (19). In this structure, all the core arguments are simply labelled ‘ARG’ and not distinguished as subject, object or other relations.

(19) Informal representation of the constituents of the clause in RRG

<table>
<thead>
<tr>
<th>Core</th>
<th>Periphery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicate</td>
<td>Arguments</td>
</tr>
<tr>
<td>Direct</td>
<td>Oblique</td>
</tr>
</tbody>
</table>

### 2.4.1 Grammatical relations in RRG

The concept of grammatical relations in RRG is very different from other theories. RRG avoids reference to the traditional grammatical relations of subject and object, instead positing only one grammatical relation: the **syntactic pivot** (Van Valin, 1993:50), which is the privileged syntactic argument in a particular construction. In almost all constructions of English, it coincides

\(^6\) An argument-adjunct is a constituent of the core but is not a true argument of the verb. See §3.3.4.
with the subject. As with the traditional subject, the semantic role of the argument concerned is neutralised for syntactic purposes, although the concept of subject is considered inadequate because it does not distinguish between syntactic pivots and semantic pivots. Semantic pivots do not neutralise semantic roles as the pivot is selected based on its thematic relation.

Most languages have the same syntactic pivot for all or most of their grammatical constructions (Van Valin, 1993:58). This pivot, being the privileged relation, would in other theories be labelled the subject. However, subject is a term that applies through the whole grammatical system while the syntactic pivot is construction-specific. The use of the term subject assumes that all constructions in a language have the same syntactic pivot.

There is no need to posit a direct object, as a combination of syntactic and semantic features serves to explain its behaviour (Van Valin, 1993:66) and unlike RG and Chomskyan theories, RRG does not uphold the autonomy of syntax. According to Van Valin, the ‘interplay of syntax, semantics and pragmatics’ is important to this theory (1993:4). In RRG, the object could be described as the second direct core argument in most situations.

RRG recognises grammatical relations7 in ‘the vast majority of languages’ but does not posit them as universal (Van Valin, 1993:56) and, as an example of a language which does not need to refer to grammatical relations, Van Valin points to Acehnese (1993:51). The syntactic processes of Acehnese can be explained by referring to the semantic roles of actor and undergoer (see §2.4.2). Actor and undergoer are not grammatical relations; they are purely semantic notions. Accordingly, Acehnese has semantic pivots rather than syntactic pivots in its grammatical constructions.

Although it does not label subjects and objects, RRG distinguishes between core arguments and arguments in the periphery (adjuncts). Core arguments are the semantic arguments of the predicate (Van Valin and LaPolla, 1997:26). However, since the core is a syntactic unit, it may sometimes contain an element which is a syntactic argument but not a semantically necessary argument (Van Valin and LaPolla, 1997:28). For example, in a raising construction like (20), Aisha is a core argument of seem, but not a semantic argument (Van Valin and LaPolla, 1997:561).

(20) Aisha seems to like her new computer. (=9.49a)

The notion of ‘core’ in RRG is much wider than the core functions in LFG which are limited to bare NPs.

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7 One or more syntactic pivots. Different constructions in a language may have different syntactic pivots (Van Valin, 1993:58).
Core arguments are further divided into direct core arguments, which are morphologically unmarked, and oblique core arguments, which are marked by an oblique case or preposition (Van Valin, 1993:40).

A PP may be either in the core or the periphery. An argument PP appears in the core as an oblique core argument, whereas adjuncts are placed in the periphery.

2.4.2 Assignment of Grammatical Relations

As in other theories, assignment of grammatical relations is based on thematic roles, but in RRG thematic roles are subject to further classification before the syntactic pivot is assigned.

On top of the usual thematic relations, RRG posits a second tier of semantic relations called macroroles (Van Valin, 1993:43). There are only two of these macroroles – actor and undergoer – which correspond to the two arguments of a transitive predicate. Actor and undergoer are also described as a generalised agent-type role and a generalised patient-type role, respectively (Van Valin and LaPolla, 1997:141). Thematic relations on the agent end of the semantic hierarchy are more likely to be realised as actors and, conversely, thematic relations on the patient end are more likely to be realised as undergoers.

Unlike the thematic relations hierarchy in LFG, the thematic hierarchy in RRG is bi-directional (Fig 2.4). This is due to the mapping of thematic roles to two macroroles rather than a hierarchy of grammatical relations and the arrows indicate the increasing improbability of the relation being assigned that macrorole. This leaves roles like locative in the middle, with an equal chance of being actor, undergoer or neither. Recipient is considered a kind of locative, and instrument a kind of effector (Van Valin, 1993:44-5).

Given two arguments of a verb, the argument bearing the thematic relation on the left side of the hierarchy will be the actor and the right one will be the undergoer.

Though it may appear that actor and undergoer are just different names for subject and object, their nearest equivalents would be logical subject and logical object, as they do not correspond to the syntactic subject and object. The macroroles actor and undergoer are

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8 An intransitive predicate may have either an actor or an undergoer as its sole argument.
intermediaries between thematic relations and grammatical relations (Van Valin, 1993:49). This contrasts with other theories where grammatical relations are the intermediary between thematic roles and surface expressions. Although the macroroles are semantic roles, in RRG the syntax has access to semantic information at least at the macrorole level. RRG appeals to the macroroles as a more universal alternative to the nominative/accusative-9 and configurational-oriented subject and object and as a way to capture the generalisation that certain arguments behave alike despite their disparate thematic roles. Most languages need grammatical relations as well because an actor will not always be a grammatical subject and an undergoer will not always be a grammatical object.

The macroroles contribute to the assignment of grammatical relations or, more accurately, to the selection of the syntactic pivot. In English, the PSA10 selection principle states that the highest macrorole is mapped to subject (Van Valin and LaPolla, 1997:175). Therefore in an active sentence, the actor will be mapped to the syntactic pivot. But the passive rule reverses this and the lower-ranking macrorole is selected as the pivot in passive sentences (Van Valin, 1993:59).

Just as actor and undergoer do not correspond to subject and object, neither do they correspond to RG’s 1 and 2. The initial assignment of RG terms is semantically based, thus a 1 in the initial stratum corresponds to actor, and an initial 2 corresponds to undergoer. However, RG’s relations are open to revaluation, so that if the patient is made subject it will become 1, and the agent will become a chômeur. By contrast, in RRG the assignments of actor and undergoer are constant as these are semantic roles.

2.4.3 Relation-changing Processes

Since RRG recognises only one grammatical relation in English – the syntactic pivot – there can be no real relation-changing processes. The account given of relation-changing processes is stipulative only. The passive, for example, is an alternative mapping from macroroles to syntactic pivot. This is formalised as follows (Van Valin and LaPolla, 1997:295):

(21) English passive construction (= 6.62)
   a. PSA modulation: non-actor occurs as pivot/controller (default non-actor = undergoer)
   b. Argument modulation: actor appears in periphery as object of by or is omitted.

9 As opposed to ergative.

10 Privileged syntactic argument i.e. syntactic controller or pivot (Van Valin and LaPolla 1997:281)
Object alternations are certainly not relation-changing processes in RRG, because object is not a grammatical relation. Instead these processes are characterised as ‘variable linking to undergoer’ (Van Valin and LaPolla, 1997:336). Verbs which show these alternations have alternative choices for undergoer, and the argument which is selected as undergoer maps to the second direct core argument (object) slot. The remaining, non-macrorole argument maps to an oblique core argument (PP argument).

Monotransitive verbs which have three arguments select one argument as the actor, one as the undergoer whilst the third has no macrorole. The reason for this is that even if there are three arguments, only two will have macroroles because a maximum of two macroroles are assigned per clause. The argument with the highest thematic role on the actor hierarchy (Fig. 2.4) maps to actor and the argument with the thematic role on the rightmost end of the hierarchy maps to undergoer. Unless otherwise specified, verbs of this type can select either of the two non-actor arguments as undergoer.

For example, the verb *spread* has three arguments: agent, location and theme. The agent maps to actor and the theme, by default, maps to undergoer. The location is realised as a PP.

(22) John spread the butter on the toast.
    agent theme location

The location also has the potential to map to undergoer, in which case the theme is realised as a PP:

(23) John spread the toast with butter.
    agent location theme

Because both these arguments have the potential to be realised as direct core arguments, they are core arguments even when they are realised as PPs. This is the criterion for analysing some PPs as oblique core arguments rather than peripheral elements (Van Valin and LaPolla, 1997:30). A PP in the periphery cannot become a core argument in English. For example, the PP in (24) is in the periphery and its object cannot be a core argument.

(24) John cleaned the floor with a rag.
(25) *John cleaned a rag over/on/ across the floor.

However, in some languages a peripheral adjunct may become a core argument but only with accompanying verbal marking, such as an applicative marker (Van Valin and LaPolla, 1997:30).
Undergoer alternation operates at the level of macroroles, which is before the assignment of grammatical relations. It could be described as a semantic relation change, rather than a grammatical relation change.

2.4.4 Summary

Relation-changing processes do not exist in RRG. Alternative mappings of arguments to surface expressions are achieved by alternate linking between thematic roles and the macroroles of actor and undergoer. A theory with no account of relation-changing processes cannot explain the argument status of a PP by appealing to its counterpart in another clause which is a core argument. However, RRG does relate the undergoer and non-undergoer roles of an NP by the phenomenon of variable linking to undergoer. The two realisations of a theme as undergoer or non-undergoer stem from the same lexical entry, therefore are related at the level of semantic relations. Since neither is a syntactic pivot, they are not involved in relation-changing processes.

A PP in RRG could be an oblique core argument, an argument-adjunct or an adjunct. However, none of these is defined as a grammatical relation in RRG. A PP cannot be a syntactic pivot; therefore it is not considered to have a grammatical relation with the verb, but only a semantic relation.

2.5 Grammatical relations of themes and PPs

Due to the lack of consistent one-to-one mapping between thematic roles and surface expressions, most theories of syntax have embraced the concept of grammatical relations. All three theoretical frameworks described in this chapter have a theory of grammatical relations, although it is not very clear in RRG.

For this thesis, the main issues relating to grammatical relations are the assignment of a grammatical relation to the theme, the possible grammatical relations assigned to PPs, and the analysis of relation-changing processes in each theory.

2.5.1 The Mapping of Themes to Grammatical Relations

Generally, the NP which refers to an entity undergoing a change of location has the semantic role of theme. LFG and RRG recognise the role theme in their inventory of thematic roles, but RG is less concerned with specific thematic roles, except in the initial mapping of NPs to the three terms. Because thematic roles are not utilised much, it is not clear in RG whether a theme is treated the same as a patient in mapping to 2.

In LFG, a theme is classified as an unrestricted role, or [-r]. Under LMT, a theme will normally map to OBJ, unless there is no agent, when the theme will map to SUBJ.
In RG, an argument which undergoes a change of location will often be assigned to the term 2, being viewed as a patient of change of location. Theme is not one of the named obliques, but nothing in the theory prevents the creation of an oblique which represents a theme, if a theme is not analysed as an initial 2.

In RRG, a theme is at the higher end of the undergoer hierarchy, so it will be mapped to undergoer if there is no patient role in the sentence. Undergoer is a macrorole and in an active sentence undergoer is mapped to the core argument which is not the syntactic pivot. If a theme is not mapped to undergoer, it will be expressed as a with-phrase, by a rule explained in §3.3.1.

2.5.2 The Grammatical Status of PPs

2.5.2.1 PPs which are arguments

PPs in a clause may be either adjuncts or arguments. A PP is an argument if it is obligatory either semantically or syntactically (Van Valin, 2001). By way of example, with the verb fill, the thing being moved is conceptually necessary to the event of filling and therefore it is an argument not an adjunct, even though it is syntactically optional (Van Valin, 2001). Adjuncts, in contrast, are always optional.

LFG has the function OBL for a non-core argument: it is morphologically marked as a PP but it is an argument of the verb and is therefore listed in the lexical form of the verb. An example of this is the locative argument of put which is an OBL.

RG does not distinguish between arguments and adjuncts, but among PPs a distinction is made between obliques and chômeurs. Chômeurs are demoted terms so they could be considered arguments (assuming that 1, 2 and 3 are arguments). However there is no basis for labelling any oblique as an argument in RG, even if argument was defined in RG.

In RRG, PPs do not have grammatical relations as such, because the only grammatical relation in RRG is the syntactic pivot. However, PPs which are arguments are distinguished from non-arguments because they appear in the core.

2.5.2.2 PPs which are not arguments

Adjuncts are even further removed from syntactic processes because they are not arguments of the predicate. In English, adjuncts cannot become the object or subject of the predicate in any relation-changing process (except in the pseudo-passive of certain verbs).

While argument PPs may be distributed among one or more grammatical relations, in these three theories non-argument PPs fall into just one category. In LFG, PPs which are not arguments have the ADJ function, while in RG, non-argument PPs are obliques. In RRG, all non-arguments are outside the core and they are adjuncts.
2.5.3 Relation-changing processes

The analysis of relation-changing processes could provide evidence for the argument status of themes which appear in *with*-phrases. If the argument in the *with*-phrase is identified with the object or subject in an alternative variant of the sentence, this could be used as evidence that the theme in the *with*-phrase is an argument despite its status as a PP.

In LFG, relation changes are lexical and the two variants of an alternation are distinct but related lexical entries. The two entries have different argument structures but are related by a lexical rule.

In RG, relation changes are explicitly analysed as revaluations of grammatical relations. Therefore a theme in a *with*-phrase can be identified with the same argument in a different stratum with the term 2. If a theme is an initial 2, the revaluation to a *with*-phrase is analysed as a chômeur, neither a term nor an oblique.

In RRG, there are no real relation-changing processes, but only alternate mappings to the semantic macroroles. A theme could be mapped to undergoer or have no macrorole. Neither theme is a syntactic pivot, but both are assumed to be arguments. The fact that a theme can be mapped to undergoer is considered evidence for its argument status, regardless of the definition of *grammatical relation* in this framework.

2.5.4 Summary of the Grammatical Relations of PPs

While the assignment of grammatical relations to bare NP arguments is fairly straightforward, the same cannot be said for PPs. PPs in English fill a number of roles and have varying degrees of relatedness to the verb. As such, PPs are open to a range of analyses and the grammatical relations assigned to them vary in each theoretical framework and even within frameworks.

Table 2.2 shows the assignment of grammatical relations for three prepositional phrases in the various frameworks. These PPs were chosen for their argument potential, but their actual assignment varies somewhat. Some are arguments or terms, and others are non-arguments or non-terms. The clearest example of a PP argument is the dative or *to*-object and in all three frameworks it is assigned argument or term status. The second example – the benefactive *for*-phrase – is usually assigned a non-argument relation, despite its potential to appear in a double object construction with some verbs. The passive *by*-phrase is usually considered an ADJ in LFG, but may also be an OBL (see §3.1.3.1). RG and RRG designate the *by*-phrase as a former term and an adjunct respectively.
In conclusion, the three frameworks do not agree on the assignment of grammatical relations to PPs. It is clear, though, that not all PPs are assigned the same grammatical relation. Some PPs are arguments and some are not and this leaves open the question of where with-phrases fit into a theory of grammatical relations. Chapter 3 contains descriptions of with-phrases in the three frameworks and shows that, in its different uses, the with-phrase has multiple possible assignments for grammatical relations.

<table>
<thead>
<tr>
<th></th>
<th>Dative to</th>
<th>Benefactive for</th>
<th>Agentive by</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFG</td>
<td>OBL</td>
<td>ADJ</td>
<td>ADJ/OBL</td>
</tr>
<tr>
<td>RG</td>
<td>3</td>
<td>Oblique</td>
<td>1-chômeur</td>
</tr>
<tr>
<td>RRG</td>
<td>Oblique core argument</td>
<td>Argument-Adjunct</td>
<td>Adjunct</td>
</tr>
</tbody>
</table>

Table 2.2 Grammatical relations of some PPs in three frameworks
3 With-phrases in Three Theories of Syntax

3.0 Introduction

As has been said, PPs, including with-phrases, bear different grammatical relations depending, among other things, on whether they are classified as arguments or adjuncts of the verb. With regard to grammatical relations, argument means ‘syntactic argument’ – that is an NP or PP whose omission would render the clause ungrammatical. In all the theoretical frameworks described here, the with-phrase can fit into either of two grammatical relation categories depending on whether it is an argument or an adjunct. The issue of whether particular with-phrases are arguments or adjuncts will be discussed in more detail in Chapter 4.

Discussion in this chapter adheres to the interpretation of the respective frameworks, based on examples cited in the literature or extrapolated from related PPs where evidence specific to with-phrases is lacking. Examples of different types of with-phrase are used to demonstrate how they are assigned different grammatical relations. The verbs present and supply are used as examples of verbs that take an argument type with-phrase. Load and spray are used to show how a theme with both argument and adjunct properties is mapped to a grammatical relation. This chapter also describes with-phrases which are instruments as well as themes, such as the with-phrases of hit and open to demonstrate how a with-phrase is assigned an adjunct type grammatical relation. These are necessary for completeness because I will propose later that some motion theme with-phrases do bear the same grammatical relations as with-phrases which are not themes. In this chapter however, I demonstrate the range of grammatical relations with attested examples from the literature, where possible.

This chapter examines the treatment of with-phrases in the three theoretical frameworks introduced in Chapter 2. It shows how semantic roles, especially themes, are mapped onto grammatical relations and how different kinds of with-phrases end up with different grammatical relations. Where possible, the assignment of the preposition with is also explained.

3.1 Lexical Functional Grammar

PPs can be classified in two ways in LFG: either as OBL (oblique argument) or ADJ (adjunct). An OBL is a syntactic or semantic argument, while an ADJ is a non-argument grammatical function. An OBL which is an optional argument may be represented in parentheses in the lexical entry (Bresnan, 2001:77). In c-structure OBL with-phrases are sisters of V while ADJ with-phrases are not. In f-structure OBL and ADJ are distinct functions.
3.1.1 The *with*-phrase as an argument

The only kind of *with*-phrase that can be represented as an OBL is an instrumental argument, \textit{OBL}_{\text{INST}}. Because themes are typically grammatical subjects and objects, LMT does not in fact predict a theme to map to OBL, as explained below.

Lexical Mapping Theory (LMT, see §2.2.2) determines how the thematic roles of argument structure are mapped onto grammatical functions. As noted previously, each thematic role maps to a feature in a-structure: patients and themes are [-r] (semantically unrestricted) and other roles are [-o] (non-objective). Instruments, like agents, are [-o] because they are realised as subjects or obliques, not as objects. Themes, however, are normally realised as objects or subjects.

Take the example of the locative alternation with \textit{hit}:

(1) He hit the cane against the wall.
(2) He hit the wall with the cane

The a-structure (argument structure) for the first use of \textit{hit} is:

(3) ‘hit,’ < Agent, Theme, Location >

\[
\begin{array}{ccc}
[-o] & [-r] & [-o] \\
[-r] & [+r] & \\
S & S/O & OBL
\end{array}
\]

S

He hit the cane against the wall

The agent is assigned [-o], the theme [-r] and the locative [-o]. This results in the grid above. Then SUBJ and nonSUBJ mapping applies (see §2.2.2), where theta-hat is assigned [-r] and all the other roles are assigned [+r] unless they are already [-r]. The agent then is [-o] [-r] which maps to SUBJ, and the theme with [-r] could map to either SUBJ or OBJ, but because SUBJ is already filled it maps to OBJ. The last argument, the locative, has the properties [-o] [+r] therefore it maps to OBL.

A problem arises when applying LMT to the *with*-variant of \textit{hit} (2). I assume that \textit{hit} with its two variant syntactic expressions has two related but distinct lexical entries. Now suppose that the thematic roles of these two verbs are exactly the same. The thing used to do the hitting has the role of theme and the thing struck has the role of locative despite the different syntactic expression. But this cannot be so, because an identical a-structure in the two lexical entries would produce an identical mapping to grammatical functions, and the variation in (1) and (2) would be unaccounted for.
One way to produce two different f-structures is to have two different thematic structures for the different uses of hit. It may be that the two variants encode slightly different views of the hitting event (Rappaport and Levin, 1988:29). Conceivably the with variant could have the wall as a patient and the cane as an instrument. The instrument role has the a-structure feature of [-o] and it receives [+r] by nonSUBJ mapping since it does not already have [-r]. Hence it is an OBL:

(4)  ‘hit’  \< Agent, Patient, Instrument >
    [-o]       [-r]       [-o]  a-structure
    [-r]       [+r]
    S  S/O  OBL

He hit the wall with the cane.

A theme, however, cannot be mapped to OBL. For example, take the locative alternation with load:

(5)  Harry loaded the wagon with the hay.
(6)  Harry loaded the hay on the wagon.

The a-structure for the locative variant of load as in (6) is shown below:

(7)  ‘Load’  \< Agent, Theme, Location >
    [-o]       [-r]       [-o]

The with variant of load as in (5) is more difficult to formulate. Even if we apply a different thematic structure, the hay is not a potential instrument. The only plausible alternative thematic structure is with the wagon as a goal\(^1\) and the hay as a theme. Goal is a patientlike role so it has the intrinsic classification of [-r] and it could become the OBJ. The problem now is that the theme is also [-r], and this is not allowed in English. The reason for its not being allowed is because English cannot have two symmetrical objects. There is a rule in LMT which overrides the [-r] classification of the second object (Bresnan, 2001:310):

(8)  When there are two patient-like roles (such as a recipient object and a theme, for example), [+o] will be assigned to the secondary one. In English this is always the lower role on the hierarchy.

\(^1\) Or patient.
The theme, being lower (see (6) in §2.2.2), will have the property of [+o] instead of [-r]. This is shown in the second layer of a-structure:

(9) ‘Load’ < Agent, Goal, Theme >

*a-structure [-o] [-r] [*-r] not allowed

a-structure [-o] [-r] [+o]
[-r] [+r]
S S/O OBJ₀

Unfortunately this classification still does not produce the correct grammatical functions. It indicates a double object construction like:

(10) *Harry loaded the wagon the hay.

Another way to analyse the with-phrase is as an adjunct. This is plausible because the with-phrase is syntactically optional with verbs like load. The agent of the passive is also commonly analysed as an adjunct for the same reason. An adjunct, being a non-argument, does not appear in a-structure, so there is no Lexical Mapping on this function. Hence the lexical entry for the with variant of load would be:

(11) Load < Agent, Goal >

However, this too is not a very satisfactory solution because, although syntactically the clause is complete with only agent and goal arguments, the theme is still a semantic argument and should be included in the argument structure. The treatment of motion theme with-phrases is problematic under LMT. Chapter 5 discusses this problem further and offers some solutions.

3.1.2 The with-phrase as an adjunct

With-phrases that are adjuncts do not appear under the same V’ node as V in c-structure² (see Figure 3.1).

In f-structure, the ADJ function is simply added to the matrix as in Figure 3.2. Adjuncts are represented as a set, notated using the usual set notation (braces). There may be more than one adjunct in a clause, and all are listed under the single function ADJ (Bresnan and Kaplan, 1982:216). Being optional, ADJs are not subcategorised for by the verb, so do not appear in the verb’s lexical entry.

---

² LFG assumes X’ theory in the c-structure of English (Bresnan, 2001:98).
3.1.3 OBL and ADJ PPs

3.1.3.1 OBLs

OBLs are semantically restricted arguments, and are labelled with a subscript. This labelling of OBLs not only indicates that they are thematically restricted, but also allows for more than one OBL in a clause provided that they are of different types. Bresnan confirms this (2001:311):
‘Multiple restricted objects and obliques are possible because these functions are further individuated by their semantic roles’.

Each OBL function must have only one value, because such functions obey the Uniqueness Condition. The Uniqueness Condition states that every attribute (including grammatical functions) has a unique value (Bresnan, 2001:47). While there may be more than one OBL function in a clause, each OBL must be of a different thematic type, and will therefore have its own unique function, such as OBL-LOC or OBL-INST. In the example below, *Mary* is a goal OBL and *fax machine* may be an instrumental OBL:

(12) John faxed a letter to Mary with his new fax machine.

The verb *fax* has three obligatory syntactic arguments, one of which (the recipient) is a PP and therefore an OBL. It also has an optional instrument, which I assume to be a semantic argument, but not a syntactic argument.

It appears to be common in LFG to only include syntactically obligatory arguments in the category of OBL, and for what I call semantic arguments to be classified as ADJs. An example is the agent *by*-phrase in a passive clause. As the agent, it is undoubtedly a semantic argument, but because it is optional syntactically, it is often assumed to be an ADJ. Falk notes that the *by*-phrase is usually assumed to be an adjunct (2001:94). His footnote acknowledges the alternative analysis, that as an argument the *by*-phrase can be designated (*↑OBLby*). Bresnan (2001: 117) analyses the *by*-phrase in (13) as OBLAg. The lexical form of the verb *captured* is as in (14).

(13) That languages are learnable is captured by this theory.
(14) captured < (*↑OBLAg*) (*↑SUBJ*) >

If the *by*-phrase is analysed as an OBL, there will be many more possibilities for multiple OBL functions in a single clause. One example would be the passive verb *placed* (as in the example (16)), whose lexical form would be as shown below (Falk, 2001:94fn):

(15) *placed* < (*↑SUBJ*) (*↑OBL-LOC*) (*↑OBLby*) >
(16) The vase was placed on the piano by Sally.

---

3 See also pp 29 and 77 (op. cit.). Elsewhere, (2001:310) Bresnan refers to it as an ‘argument adjunct’, a term not defined in LFG. Bresnan does not use the term again, nor have I come across it anywhere else in the literature. I assume there is no argument-adjunct in LFG.
The locative argument of *placed*, that is, *on the piano*, is an OBL\textsubscript{Loc} and the displaced agent is an OBL\textsubscript{by}.

3.1.3.2 PPs as ADJs

Adjuncts, on the other hand, do not obey the Uniqueness Condition (Bresnan and Kaplan, 1982:215). There can be more than one adjunct in a clause, and more than one of the same type of adjunct, for example, locative as in (17).

(17) John met Bill in Tokyo in the lobby of the Hilton.

Although adjuncts are not subcategorised for by the verb, they must appear in the f-structure (Bresnan and Kaplan, 1982:214). The Extended Coherence condition admits an ADJ into the f-structure of the clause if its immediate f-structure (that of the PP) contains a PRED feature (Bresnan, 2001:63). The grammatical function ADJ appears only once in f-structure, but its feature set may contain more than one f-structure and the coding of LFG allows this.

3.1.4 Lexical entries for PPs

PPs can correspond to a number of different grammatical functions (Bresnan, 2001:279). Three\textsuperscript{4} are important to this thesis. A *with*-phrase could either be a semantic oblique complement with the function OBL\textsubscript{θ}, where θ indicates the thematic relation of the argument (see example (18)), or a grammatical oblique complement with the function OBL\textsubscript{case} where the subscript indicates grammatical case (see example (19)) or, alternatively, a non-argument with the function ADJ (see example (20) for a predicative adjunct).

(18) Mary placed John beside Susan. OBL\textsubscript{θ} (Bresnan, 2001:277 =41)
(19) Mary gave a present to herself. OBL\textsubscript{case} (Bresnan, 2001: 279 = 47)
(20) Susan arrived for lunch in a bad mood. ADJ (Bresnan, 2001:267 =2c)

The first kind of PP is the semantic oblique complement, OBL\textsubscript{θ}. This function has a PRED feature, which is the semantic content of the preposition as in (21). Because the NP is the object of the preposition, it is the PP itself which is the argument of the verb.

\textsuperscript{4} A *with*-phrase XCOMP would most likely be an attributive PP. An example of a *with*-phrase XCOMP is: *The unresolved issue kept Susan with a bee in her bonnet*. Therefore this kind of PP is not relevant to this thesis.
The second kind of PP has the function OBL\textsubscript{case}. It has a CASE feature but no PRED feature as in (22). It is the verb which subcategorises for the OBJ of the preposition. Therefore the NP in the PP is an argument of the verb. The preposition is merely a case marker and the lack of a PRED feature indicates that the preposition has no semantic content.

(22) \begin{tabular}{c}
\textbf{OBL\textsubscript{dat}}
\hline
\textbf{OBJ} & \textbf{PRED} & \textbf{PRO'} \\
\hline
\end{tabular}

Bresnan also notes (2001:279) that the OBL\textsubscript{case} function does not allow for free choice of preposition (See §4.2.1.4 of this thesis). The preposition is specified by the verb. This is further evidence for the status of the NP as an argument of the verb.

The third possible grammatical function of a PP is the ADJ. The ADJ function has a PRED feature, and it takes an OBJ. In this way it is similar to the semantic oblique argument in (21).

(23) \begin{tabular}{c}
\textbf{ADJ}
\hline
\textbf{OBJ} & \textbf{PRED} & \textbf{enthusiasm'} \\
\hline
\end{tabular}

However, unlike the OBL, ADJ is not listed in the subcategorisation of the verb.

### 3.1.5 Assignment of \textit{with}

The assignment of \textit{with} differs for each category of PP. As stated in § 3.1.4, in OBL\textsubscript{a} the choice of preposition depends on the semantics of the OBL, while the OBL\textsubscript{case} has its preposition selected by the verb.

The \textit{with}-phrase in (24) is an OBL\textsubscript{case}:

(24) John presented a girl with some flowers.

The verb selects the preposition \textit{with}. The preposition does not have any semantic content in this sentence. Although it indicates themehood (see §4.2.2.2), the preposition does not have any spatial meaning. \textit{With} does not contribute any information to this sentence. It is simply a grammatical marker. Therefore this is the OBL\textsubscript{case} kind of \textit{with}-phrase. It has a CASE feature but not a PRED feature so it has no meaning. I suggest this case be called ‘theme’.
Since the preposition is selected by the verb, OBL THEME could be either a with-phrase or an of-phrase depending on the a-structure of the verb in question. The point is that the preposition is not a semantically meaningful part of the PP.

The with-phrase in (26) is an OBL 0:

(26) John put the knives with the forks.

Put takes a locative argument, that is, OBL Loc. This with-phrase is represented as below:

(27) OBL Loc

```
PRED   ‘with <(OBJ)>’
```

OBJ       [ “the forks” ]

In this with-phrase the preposition does have meaning, as locative phrases do, and this with-phrase takes the predicative version of with, which means ‘accompanying’.

However, a with-phrase does not usually have the semantic role of locative. It is more usually a theme or instrument. However, when with marks a theme, the preposition does not actually contribute any meaning to the clause – this is the case-marking preposition. (See example (24) and §3.1.4). So we are left with two meanings of with: accompaniment and instrument and therefore there would be two different kinds of OBL 0 associated with with: OBL Loc (the accompaniment as a locative5) and OBL Inst.

As mentioned in §3.1.3.1, each OBL in a clause must have its own unique function. This prevents such clauses as (28) which have more than one argument of the same type:

(28) * John cut the rope with the knife with the scissors.

However, the fact remains that with can mark different kinds of arguments. Besides the instrument in (28), there are other roles which are considered to be arguments such as the theme in (24), and the locative in (26). In English, though, different kinds of with-phrase OBLs do not cooccur.

5 An accompaniment with-phrase is usually an ADJ, see evidence in §3.3.1.1 and §3.3.1.2.
Nevertheless, if a clause contains several *with*-phrases, only one can serve as an argument and the others must all be ADJs. One clause may contain up to five *with*-phrases according to this example from Van Valin and LaPolla (1997:377):

(29) The woman with strong arms loaded the truck with hay with a pitchfork with enthusiasm with John. (= 7.79)

In (29) only the theme, *the hay*, could be construed as an argument. All the other *with*-phrases are adjuncts.

It may be that assignment of prepositions is simply specified as part of the verb’s lexical entry. However, with regard to arguments, the assignment of *with* does not seem to be random or idiosyncratic. Admittedly, *with* has more than one usage, but there are classes of verbs that pattern in the same way, and the assignment of *with* is predictable to a certain extent. *With* serves as a case-marker of themes and a meaningful indicator of instruments and locative arguments.

3.1.6 Summary

LFG can deal with *with*-phrases in a very simple way if they are considered as ADJs. However, there is evidence that many *with*-phrases are arguments and should be treated as OBLs. In LFG, *with*-phrases can never be core arguments and this is a syntactic condition based on their expression as PPs. But the OBL function is available to denote the argument status of certain PPs. The distinction between OBL and ADJ allows different categories of *with*-phrases to be distinguished. *With*-phrases which are themes should be assigned to the OBL function and not ADJ. However, it is not clear how this could be done.

The problem is that Lexical Mapping Theory is not consistent with the analysis of motion theme *with*-phrases as arguments. While instruments can be characterised as OBL, themes cannot because of their intrinsic classification as [-r]. There may need to be a revaluation of the intrinsic properties of themes, or revision to some other aspect of the theory, in order to allow LMT to produce more appropriate mappings of these roles to grammatical functions. The mapping theory should predict the motion theme *with*-phrase to be a kind of OBL, not a secondary object which the presence of the preposition clearly refutes. Chapter 5 discusses this problem in more detail.

3.2 Relational Grammar

RG has three terms, or core relations, but none of these can be realised as a *with*-phrase. In English, 1 is equivalent to the subject, 2 to the direct object and 3 to the *to*-object. All *with*-phrases in RG are nonterms, either obliques if their initial assignment is as a *with*-phrase, or chômeurs if a term is demoted to a *with*-phrase. This classification does not distinguish between
arguments and adjuncts, because while chômeurs, being initial terms, must be arguments, obliques can be either adjuncts or arguments. Indeed, the RG framework does not refer to adjuncts and arguments at all, but utilises the term-oblique dichotomy instead.

This becomes interesting when we look at the alternation of with-phrases with objects. RG allows derivation and revaluation processes, so the alternation could be analysed as derived from either variant. It could be analysed as either a term-nonterm revaluation (chômeur) or an oblique-term revaluation. Which variant is considered basic depends on the initial assignment of grammatical relations. Farrell (1994) offers an alternative analysis described in §3.2.2 which does not involve revaluation.

The other unique point in RG is the special status of the to-object as a term which seems nearer in spirit to a direct core argument rather than an oblique argument, as RRG and LFG would have it.

3.2.1 The with-phrase as a chômeur

In LFG and RRG, the phrase-structure representations of the two variants of present (as in (30) and (31)) are almost identical, and in RRG they are both labelled ‘oblique core argument’. In RG, however, the status of the two PPs is highly contrastive, the to-object being a term and the with-phrase a nonterm.

(30) John presented some flowers to a girl.

(31) John presented a girl with some flowers.

I assume that the initial assignment of terms for present is the standard assignment in RG, that is 1 for the agent, 2 for the patient and 3 for the recipient (Perlmutter and Postal, 1984:97). It is the same as the initial assignment for other verbs of transfer of possession, like give. So the relational network for (30) is as in Figure 3.3:

Figure 3.3 John presented some flowers to a girl.
Because of this initial assignment, (30) is the basic clause and the alternative with the with
phrase (31) can be considered as derived from it. I assume this follows the same pattern as the

If present is analysed in the same way as the dative alternation, to derive (31) from (30) the 3
will be revalued as a 2. This results in the theme (some flowers) losing its term status as 2, and
going into chômage. The revaluation of the theme to a chômeur is illustrated in the second
stratum of the relational network in Figure 3.4.

![Figure 3.4 John presented a girl with some flowers](image)

In traditional RG, the second stratum with-phrase cannot be characterised as an oblique
because revaluation to oblique is ruled out by the Oblique Law which states that an oblique must
be assigned that relation in the initial stratum (Perlmutter and Postal, 1983:88).

Channon (1982) analyses the with-phrase of supply as a 2-chômeur. He explains the
appearance of with to mark the 2-chômeur as being due to the subcategorisation frame of the
Present verbs, which require a beneficiary and at the same time allow a recipient argument
(Channon, 1982:274).

An alternative analysis of supply is offered by Dryer (1986:831), where both variants have a
PP chômeur. This analysis results from the assumption that the double object construction is
basic, and that the to-object is a chômeur rather than its traditional analysis as a 3. He refers to
this derivation of the to-phrase as antidative (1986:820). PO and SO in Dryer’s analysis refer to
primary object and secondary object respectively, while DO and IO refer to direct object and
indirect object respectively, of which the latter pair is the basis for the traditional RG analysis.

(32) Antidative

<table>
<thead>
<tr>
<th>Initial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Su</td>
<td>Su</td>
</tr>
<tr>
<td>SO (DO)</td>
<td>PO (DO) chômeur</td>
</tr>
</tbody>
</table>

Our firm supplies coats to the army. (=62a)
(33) IO Advancement

Our firm supplies the army with coats. (=62b)

<table>
<thead>
<tr>
<th>Initial</th>
<th>Su</th>
<th>PO (IO)</th>
<th>SO (DO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final</td>
<td>Su</td>
<td>PO (DO)</td>
<td>chômeur</td>
</tr>
</tbody>
</table>

On Dryer’s view, both PPs are chômeurs: the to-phrase in (32) as a result of antidative (that is, coats is promoted from SO to PO, demoting the army from PO status) and the with-phrase in (33) as a result of IO advancement (that is, the army is promoted from IO to DO, leaving the original DO, coats, as a chômeur). Dryer claims that the supply verbs are the only example of IO advancement in English for he does not analyse the dative shift in this way. On Dryer’s analysis, all PPs are nonterms, and only bare NPs are terms (1986:822). Nonterms include both chômeurs and obliques, but the with-phrases of supply verbs are chômeurs rather than obliques because they are the product of revaluation.

On a different analysis, Farrell states that 2-chômeurs are not marked by a preposition, and this means that the with-phrase of present cannot be a chômeur (1994:23). Farrell does not specifically analyse present or supply, but his analysis of the dative alternation (1994:248) consists of two different initial assignments, and I assume this would apply to present and supply as well. Farrell analyses the to-object as an initial and final oblique as in (34):

(34) We gave a present to the boss.
    1  2  oblique

(35) We gave the boss a present.
    1  3 → 2  oblique (but initial 2)

Figure 3.5 We gave the boss a present

The double object construction in (35) is given a more traditional analysis, in which the recipient is a 3 revalued from a 2 as shown in Figure 3.5, which is very similar to Figure 3.4 except that the 2 is demoted to oblique rather than chômeur because Farrell rejects the chômeur
relation. Although the double object construction is the product of a revaluation, there is no revaluation between the two variants of *give*. On this analysis, the *with*-phrase is not the result of revaluation and the alternations of *give* and *present* would consist of two separate clauses.

### 3.2.2 Locative Alternations

Verbs which participate in locative alternations have two possible realisations, both of which involve a 2 and an oblique in the initial stratum. This raises the question as to which NP is to be assigned the initial term status and which the oblique status. Traditionally in RG, locative alternations have been described as advancements from locative to 2 – that is, the locative NP is an initial oblique, and is revalued as 2 in the second stratum, forcing the theme (initial 2) into chômage (Farrell, 1994:18). This is illustrated by the relational network diagrams in Figures 3.6 and 3.7 taken from Farrell (1984:18) (=37a and 37b).

Figure 3.6 Martha sprayed water on the plant.

Figure 3.7 Martha sprayed the plant with water.

On this view, the *with*-phrase is not an oblique but a chômeur which is realised as a PP. The initial assignment of the locative as an oblique is due to the principle of initial grammatical relation assignment mentioned above (§3.2.1). As a default, the theme or patient is assigned the grammatical relation 2. The choice of theme as initial 2 implies that a *with*-phrase which
represents a displaced theme is different from an oblique with-phrase. In fact, it cannot be an oblique because it must have been an initial 2. This is due to the Oblique Law. Hence, all with-phrases which mark themes are actually 2-chômeurs by the traditional analysis.

![Diagram](image)

Figure 3.8 Martha sprayed the plant with water.

An alternative analysis of the locative alternation is offered by Farrell (1994, 19-20). In this analysis, whose similarity with that of Rappaport and Levin (1988) is acknowledged by Farrell, the two alternative clauses have different initial grammatical relation assignments. On this view, the theme is potentially an initial oblique with the locative as 2, as in Figure 3.8 (Farrell, 1994:19 (=38b)), and there is no revaluation.

Farrell argues that this analysis does not contravene any principle of RG and is in fact ‘necessary’ even though revaluation is an option in RG (Farrell, 1994:19). He compares the revaluation analysis with the dative shift which involves advancement from 3 to 2. Farrell shows that there are syntactic restrictions on elements that are promoted from 3 to 2 (1994:119ff). The promoted recipient is constrained in a way that initial 2s are not; for example, nominalisation and raising to object are impossible.

As further evidence, Farrell claims that depictive predicate adjectives\(^6\) (not resultative) can only be supported by themes which are initial 2s (1994:132-4):

(36) Tom ate the steak raw. (=119a)

Such predication is not allowed with themes in PPs (with-phrases or of-phrases):

(37) * They robbed us of the meat frozen. (=124a)
(38) * John garnished the pizza with caviar raw.

---

\(^6\) An adjective that describes a state of one of the arguments of the verb, but not a result of the action described by the verb (Farrell, 1994:132).
But themes which are initial 2s and subsequently displaced by 3s can support depictive predicate adjectives (Farrell, 1994:134):

(39) They sold us this \textit{meat} \textit{frozen}. (=125b)
(40) He handed me the \textit{towel} \textit{soaking wet}. (=125c)

Therefore, in dative shift the theme is an initial 2 and the recipient is an initial 3. Contrast this with the locative alternation constructions (Farrell, 1994:134):

(41) Farmers never load \textit{hay} \textit{onto} \textit{wagons} \textit{green}. (=126a)
(42) * Farmers never load \textit{wagons} \textit{with} \textit{hay} \textit{green}. (=126b)

Because there is no secondary predication for the displaced theme, it cannot be an initial 2. This implies that there is no revaluation for the locative alternation.

Farrell also argues that if an oblique were promoted to 2, it would have the same constraints as the dative-shifted recipient. Since the final 2s in both variants of the locative alternation have all the normal capabilities of 2s, he assumes that they are initial 2s, not advanced 2s (Farrell, 1994:135).

One problem with Farrell’s arguments is that 3-2 advancement as in the dative shift involves recipients and themes, whereas oblique-2 advancement involves themes and locatives for the locative alternation. The behaviour of the dative shifted 2s may be specifically due to their being recipients. If so, the restrictions associated with recipient 2s would not be expected to also apply to themes and locatives and other 2s. Hale and Keyser (2002:163) show that depictive predicate adjectives are always construed with the theme, not the recipient, in both variants of the dative alternation:

(43) I gave the \textit{bottle} to the baby \textit{full}. (=8a)
(44) * I gave the bottle to the baby \textit{crying}. (=8c)
(45) I gave the baby its \textit{bottle} \textit{full}. (=9a)
(46) * I gave the baby its bottle \textit{crying}. (=9c)

Assuming, as for the standard analysis that the baby is a 3\textsuperscript{7} in (43) and (44) and a 3-raised-to-2 in (45) and (46), the restriction on depictive predicate adjectives seems to be on initial 3s, rather

\textsuperscript{7} Farrell analyses the to-object as an oblique, but this is not relevant to the problem with the inner object. Farrell analyses the inner object as a 3-raised-to-2, but not a revaluation of the to-object variant (1994:248).
than raised 2s. Therefore, it is not because the recipient is promoted to 2 that it cannot support a depictive predicate adjective, but because it is a 3. This restriction may however apply only to the ‘dative’ verbs. For example, a recipient which is a subject is not restricted from secondary predication as shown in (47) (Jackendoff, 1990a:203):

(47)  *John received the letter drunk. (=56a)

The exception in (47) can be explained if the recipient is viewed as an agent, and analysed as an initial 1.

On the other hand, it is significant that the recipient of a verb like present cannot support a depictive predicate adjective either, even though its with-phrase theme cannot be a 2-chômeur according to Farrell’s argument:

(48)  *I presented John with the letter drunk.

A depictive predicate adjective cannot be construed with either the letter or John in (48). Therefore according to Farrell’s argument, neither can be an initial 2. The recipient must be an initial 3, but with no 2 in the initial stratum, this analysis is invalid.

The evidence shows that 3s, whether raised to 2 or not, cannot support a depictive predicate adjective. This could be explained by appealing to their thematic relations (recipients, benefactives or addressees as defined by Farrell (1994:248)) or by the fact that they are initial 3s. However, it does not follow that depictive predicate adjectives cannot be construed with obliques or any other elements which are not initial 2s. Obliques such as locatives which are promoted to 2 may have all the properties of an initial 2.

Another objection is that syntactic differences in theme and recipient 2- chômeurs may be due to syntactic differences in NP and PP. I point out that the displaced theme (2-chômeur) in the dative alternation is a bare NP, so it can support a depictive predicate adjective, whereas a displaced theme in the locative alternation is a PP and therefore cannot. However, Jackendoff (1990a:204) offers these as counterexamples:

(49)  You can count on John even drunk. (=58a)
(50)  What do you make of John drunk?  (=58b)

I object that these examples are better categorised as prepositional verbs with John as a direct object (Huddleston and Pullum, 2002: 272). When the verb selects the preposition, the resulting prepositional verb has an idiomatic meaning which is not predictable from the meaning of the verb and the preposition.
Baker (1997:90) also claims that depictive adjectives cannot be predicated of the object of a PP, but his argument is based on c-command which is not relevant for RG. Nevertheless the syntactic differences between the PP and the bare NP could play a role in this phenomenon, but RG has not developed enough in this area to provide an analysis.

3.2.3 *With*-phrase which is an initial oblique

There is no evidence that *with*-phrases which are not syntactic arguments participate in relation-changing operations. They appear as initial and final obliques. This includes *with*-phrases of manner, location, cause and accompaniment.

Instruments are also obliques in RG and the instrumental is one of the named oblique relations in the literature (Blake, 1990:1). Instruments, unlike themes, cannot be 2s but are usually realised as initial obliques in *with*-phrases. Some instruments can appear as the subject of the verb, and Farrell gives this example (Farrell, 1994:135):

(51) Heather opened the door with the skeleton key. (= 128a)
(52) The skeleton key opened the door. (= 128b)

Traditionally this alternation is analysed as oblique-1 revaluation as in Figure 3.9. The initial 1, the agent, is put in chômage, in this case compulsorily deleted.

![Figure 3.9 The skeleton key opened the door.](image)

Farrell argues that the instrument in (52) is an initial 1 and not a derivation of (51). The reason is that (52) can be passivised as in (53):

(53) The door was opened by the skeleton key.

The passive sentence in (53) involves the 2 (*the door*) advancing to 1, and as shown in Figure 3.10, that would contravene the 1-Advancement Exclusiveness Law (Perlmutter and Postal,
If the oblique had advanced to 1, there could be no more advancement to 1 in that clause. But the corresponding passive (53) exists, at least for some speakers of English.

Another problem with the traditional analysis is that the agent must not be expressed, whereas normally in English a 1-chômeur can be expressed as a *by*-phrase. A more logical analysis would be that the instrument is an initial 1, and no agent is present initially. That is, (51) and (52) are two independent clauses, with neither one derived from the other.

### 3.2.4 Assignment of *with* in RG

When terms go into chômage, they may be marked identically to the term itself, or they may take on marking that is similar to oblique phrase marking (Bell, 1983:151). In English, chômeurs are usually PPs but this marking is not to be taken at face value, warns Blake (1990:63), for although the prepositions which mark chômeurs are the same as those which mark obliques, they do not have the same semantic value as the oblique markers. The choice of prepositions is in fact arbitrary. Blake suggests that the usage of a preposition without its characteristic meaning is an indication that the PP is a chômeur and not an oblique (Blake, 1990:64). Blake illustrates this with the 1-chômeur *by*-phrase in which the preposition *by* indicates neither a locative nor a manner, as are the usual meanings of oblique *by*-phrases (Blake, 1990:64). Rather it is an arbitrary, purely grammatical marker, and the NP following it is unchanged in its role as an agent.

This can also be applied to *with*-phrases. I assume that *with* marks certain semantic roles, primarily instruments, along with manner and accompaniment. Nevertheless, the use of *with* to mark 2-chômeurs which are themes is purely arbitrary.

This reasoning implies that *with* is assigned to instruments, accompaniment and manner obliques on a semantic basis, and assigned to 2-chômeur themes on an arbitrary grammatical
basis. This is comparable to the LFG analysis, where there are two lexical entries for with – one a predicative preposition introducing a new NP, and the other a grammatical case-marker for oblique arguments.

3.2.5 Summary

Although a with-phrase might be automatically considered an oblique in RG because of its expression as a prepositional phrase, in fact there are two distinct kinds of with-phrase in this framework. One of course is the oblique, most obviously the instrumental oblique, but there are also other adjunct phrases such as manner and accompaniment. Although they do have some relationship with the verb, (probably not as arguments), they are not close enough to the verb to be admitted under one of the terms. These with-phrases are assigned the initial relation of oblique, and normally in English they will remain obliques.

The second possible relation for the with-phrase is chômeur, specifically 2-chômeur. The chômeur relation is assigned to a constituent which has been revalued from term status. The promotion of another NP to 2 results in the theme being demoted to a with-phrase, and this with-phrase is a chômeur. The chômeurs could be said to be equivalent to arguments, because they are derived from terms. While the themes of dative verbs are initial 2s, it is not clear that all themes are assigned the term 2 in the initial stratum, and the assignment of thematic roles in RG is vague. Assuming that themes are initial 2s, all theme with-phrases are 2-chômeurs according to traditional RG.

However, the dative alternation is a revaluation of theme from 2 to 2-chômeur, and present seems to fit this pattern, but that does not mean that the locative and other alternations must be examples of the same phenomenon. Indeed, Farrell proposes that the with-phrases of verbs of transfer of location are not chômeurs, and that variants of the locative alternation and others are better explained as derivationally unrelated clauses. Nevertheless, I maintain that the traditional analysis of locative alternation with-phrases as 2-chômeurs is correct. In any case, because of verbs like present, the 2-chômeur must have two syntactic expressions: as a bare NP and as a with-phrase.

3.3 Role and Reference Grammar

As stated in §2.4.4, with-phrases may be classified in three ways in RRG. With-phrases that are syntactic arguments are included in the core of the clause but, because of the presence of the preposition, they are oblique core arguments rather than direct core arguments (Van Valin, 1993:40). Argument-adjuncts also form part of the core of the clause. In the case of with-phrases that are not arguments, these are placed in the periphery of the clause and are called adjuncts. All with-phrases appear on the right-hand side of the clause after the subject, verb and object (if any)
but some are included in the core with these constituents and others are excluded from it. The status of any *with*-phrase depends on whether the verb requires a *with*-phrase argument.

### 3.3.1 The assignment of grammatical relations and the preposition *with*

From their semantic roles, the arguments are allocated the macroroles of actor and undergoer (see §2.4.2). Then, according to the Privileged Syntactic Argument Selection Principle for English, the actor is mapped to subject (syntactic pivot) in an active sentence (Van Valin and LaPolla, 1997:282). The undergoer is the second direct core argument, which is not marked by a preposition. The third argument is either a PP in the core with the appropriate preposition or, for certain verbs with double objects, another object without a preposition. The selection of *with* to mark an oblique core argument is based on the semantics of the verb and its arguments.

The assignment of prepositions in RRG is supposed to follow from general principles rather than idiosyncratic specifications in each verb’s lexical entry. These general principles relate to ‘the semantics of verbs and the assignment of arguments to morphosyntactic positions within the clause’ (Foley and Van Valin, 1984:81).

One of the clearest examples of such a principle is the assignment of the preposition *with* (Foley and Van Valin, 1984: 87):

(54) Assignment of *with*

*With* may be said to have two general functions: it marks potential actors, agents or effectors which do not occur as actor, and it marks (effector-) themes (which are potential undergoers), which do not occur as undergoers.

This means that *with* is assigned generally in two situations: first, where an agent is displaced from its normal actor position, and second, where a theme is displaced from the undergoer position. Effectors, which are defined as participants which perform some action but do not have volition and control (Van Valin, 1993: 40), may be either potential actors or undergoers.

Van Valin and LaPolla (1997) introduced a revised and formalised version of this rule, intended to achieve the same effect. The rule is quoted below (Van Valin and LaPolla, 1997:381):

(55) Rule for assigning *with* in English (= 7.88)

Given two arguments, *x* and *y* in a logical structure, with *x* lower than or equal to *y* on the Actor-Undergoer Hierarchy, and a specific grammatical status (macrorole, head of NP), assign *with* to the *y* argument iff it is not selected for that status.

A note is added below this rule that the two arguments must both be candidates for the same grammatical status (e.g. undergoer); although it follows that only one of them can achieve that status. The assumption here is that normally, as a default, the higher role is selected for macrorole
(or head) status, and if it is displaced by another argument the higher role is demoted to a PP with *with*.

The ‘head of NP’ is included in this rule to cover *with*-phrases such as (56):

(56)  The woman with strong arms

This is analysed as the non-default realisation of the possessive phrase in (57):

(57)  The woman’s strong arms

The object of *with* in (56) is not a theme, so it is not a matter of concern to this thesis, however see §3.3.3 for further discussion of this type of *with*-phrase as an adjunct.

Following this rule, take for example, an LS containing a theme (y) and a locative (x) which are both candidates for the undergoer macrorole (Van Valin and LaPolla, 1997:379):

(58)  [DO (Kim, Ø)] CAUSE [BECOME be-on’ (truck, hay)]

Bearing in mind that the Actor-Undergoer hierarchy is bi-directional (see Fig. 2.4), locative (x) is lower than theme (y) on the Undergoer Hierarchy, meaning that the higher-ranked theme is the default for undergoer. If y (the theme) is not selected as a macrorole (undergoer) then it will be marked by *with*, giving the sentence in (59):

(59)  Kim loaded the truck *with* hay.

The next sections contain examples and analysis of situations where the rule for assigning *with* applies.

3.3.1.1 Non-actor agents

One instance where the preposition *with* is assigned is an agent which is not actor. If an event has two (or more) coagents and only one is selected as actor, the other will appear as a *with*-phrase (Foley and Van Valin, 1984:85). According to Foley and Van Valin, the meaning of a conjoined actor and an actor and a *with*-phrase is ‘essentially the same’ (1984:84). They give these three sentences as an illustration, and all share the same logical structure given in (63):

(60)  John and Mary went to the party.  (=3.13a)
(61)  John went to the party with Mary.  (=3.13b)
(62)  Mary went to the party with John.  (=3.13c)
I agree that (63) is the logical structure for (60), and that (61) and (62) may also share the same logical structure. However, I point out that this is only because the verb *go* is a verb of motion and *be-at’* also entails that Mary change location. This entailment follows from the lexical semantics of the verb. Logically, if John goes with Mary then Mary must also move and change location.

There are also some verbs whose meaning includes reciprocality and the alternations of these verbs have the same meaning and logical structure:

(64) Bill argued with John.
(65) John argued with Bill.
(66) Bill and John argued.
(67) [DO (Bill/John, [argue’ (Bill/John)])]

However, verbs without the semantic feature of reciprocality do not necessarily have a logical structure with conjoined arguments represented with slashes as in (67). Sentence (68), for example, does not entail that Bill ate an omelette.

(68) John ate an omelette with Bill yesterday.

The logical structure for this clause may be:

(69) yesterday’ (be-with’ (Bill, [DO (John, [eat’ (John, omelette)])]))

This LS is modelled on an adjunct PP which modifies the whole clause (Van Valin and LaPolla, 1997:163).

The hypothesis that non-actor agents are realised as *with*-phrases applies only to clauses of the conjunct-splitting type. This means that two actors conjoined with *and* are split into an actor subject and a non-actor which is expressed as a *with*-phrase. However, not all agents which are not actors are expressed as *with*-phrases. An agent may be demoted from actor status by an effector, for example. As an illustration of this, if we take the event *John opened the door with the key* and replace *John* as the actor with *the key*, we cannot express this demoted agent as a *with*-phrase.

---

8 Foley and Van Valin (1984) list the theme argument first and the locative argument second.
So, while *with* marks some agents which do not occur as actor (Foley and Van Valin, 1984:87), not all agents which are not actors are marked by *with*. It applies only to conjoined agents and only when at least one of the agents remains in the subject/actor position. While both agents must be able to perform the action, I point out that the demotion of one actor means that it is less directly involved in the event, unless the verb entails a reciprocal action. I conclude that the meaning of this *with*-phrase is ‘accompanied by’ and it is an adjunct which modifies the action of the subject/agent.

In their work, Van Valin and LaPolla seem to view agents as the only displaced actors, but effectors such as forces are also potential actors. However, effectors are not amenable to this kind of conjunct-splitting.

Most agents which do not have actor status (such as examples (61), (62) and (68)) are not arguments. They are not semantic arguments because the clause still has an agent in the subject position, making the agent in the *with*-phrase semantically redundant. For the same reason these *with*-phrases are also not syntactic arguments. Because one agent remains as subject, the agent in the *with*-phrase is optional. The exception is in the case of the reciprocal verbs (such as examples (64) and (65)) which require a *with*-phrase if the subject is singular.

Reciprocal verbs like *argue* require semantically plural arguments.

### 3.3.1.2 Non-undergoer themes

The second situation which Foley and Van Valin point out as requiring a *with*-phrase is that of a theme which is not an undergoer. Some flowers in example (74) is such a theme and when it is not an undergoer, it is marked with *with*. This example is given by Van Valin (1993:30), and its LSC is shown in Figure 3.11:

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9 In a passive clause, the agent in the *by*-phrase is still the actor, but the actor is not the syntactic pivot.
10 Theme is defined as the first argument of a two-place state predicate of location or the second argument of a two-place state predicate of possession (Foley and Van Valin and LaPolla, 1984:47-8).
11 Goals and patients which are not undergoers do not take *with* (Foley and Van Valin, 1984:86)
(74) John presented a girl with some flowers.

Present requires three arguments: an agent (in this example, John), a locative-goal (a girl), and a theme (some flowers). All three are syntactic arguments and they are included in the core of the clause.

The layered structure of the clause (LSC) in RRG does not distinguish between any of the core arguments: they are all labelled ARG. The difference between the arguments is that one is the pivot, another has a macrorole but is not the pivot, and the other has no macrorole because a maximum of two macroroles are assigned per clause. In (74) and Figure 3.11, John is the syntactic pivot, a girl has the non-pivot macrorole and some flowers has no macrorole.

The alternative version in (75) would have exactly the same LSC with the third argument as a to-object:

(75) John presented some flowers to a girl.

RRG posits the same logical structure for this pair of sentences (Van Valin, 1993:76):

(76) [DO (John, [do' (John)])] CAUSE [BECOME have' (girl, flowers)]

The clauses in (74) and (75) describe exactly the same event and the only difference would be one of focus, and therefore, macrorole assignment.

---

12 Foley and Van Valin (1984) list the theme argument first and the locative argument second.
The phenomenon of conjunct-splitting also applies to undergoers, but only those which are themes (Foley and Van Valin, 1984:86). A conjoined undergoer would be joined with and in the same way as a conjoined actor is, as in (77) below.

(77) Phoebe served the wine and the cheese. (= 3.17a)
(78) Phoebe served the wine with the cheese. (= 3.17b)

Conjunct-splitting applies when one participant remains as the undergoer and the other becomes a PP with with as in (78). In this clause, only the wine occupies the undergoer slot, and the cheese is demoted to a PP.

I point out that, like the conjoined actors in (60) - (62), it is doubtful that the two variants of the conjoined undergoer are semantically identical. Again, the with variant seems to imply the meaning of ‘accompaniment’. Sentence (78) entails that the two themes were served at the same time, whereas (77) lacks this entailment.

**Non-undergoer theme as an optional argument**

The next example to be considered is a with-phrase that appears with an object other than a recipient. An example taken from Van Valin and LaPolla (1997:336) is as follows:

(79) Max sprayed the paint on the wall. (=7.26a)
(80) Max sprayed the wall with the paint. (=7.26b)

![Figure 3.12 LSC of a clause with an optional argument with-phrase](image)

The noun in the with-phrase in (80) is still a semantic argument of the verb, but not a syntactic argument because it is optional. The LSC for (80) is as in Figure 3.12.
The LS for sentences (79) and (80) is as follows:

(81) [do’ (Max,[spray’ (Max, paint ))]] CAUSE [BECOME be-on’ (wall, paint)]\(^{13}\) (=7.26)

In the assignment of macroroles the agent is the actor because it is highest on the actor hierarchy (See Figure 2.4) and the default choice for undergoer is the theme (Van Valin and LaPolla, 1997:337). The theme is the default undergoer because it is higher on the undergoer hierarchy than the locative. Although the theme is the default choice for undergoer, the locative can alternatively be selected as undergoer\(^ {14}\). Then the theme takes the preposition with.

This alternation is cited as a lexical phenomenon because not all verbs with three core arguments display the alternation, because it has semantic effects, and it involves only semantic notions, such as undergoer (Van Valin and LaPolla, 1997:389).

However, not all themes which are not undergoers are marked by with. There are some non-undergoer themes which take of instead (Foley and Van Valin, 1984:83). These are verbs of a different semantic class, where the locative argument denotes a source, as opposed to the verbs that take with, whose locative arguments denote a goal (Foley and Van Valin, 1984:83). Hence these verbs have a different logical structure from verbs like present and hit, where instead of having [BECOME have’] or [BECOME be-at’], they have [BECOME NOT have’] or [BECOME NOT be-at’]. For example, the verb drain takes a source locative:

(82) John drained the pool of water.

(83) [DO (John, [do’ (John)])] CAUSE [BECOME NOT be-at’ (pool, water)]\(^ {15}\)

Due to the presence of NOT in the LS, this verb class may be subject to the rule for assigning of which, being more specific, will apply first (Van Valin and LaPolla, 1997:377). This rule applies to a few verbs related to change of location where the source is defined but the goal is not (Foley and Van Valin, 1984:83). Levin (1993: 124) lists the following four verbs as members of this class: clear, clean, drain and empty\(^ {16}\).

It is not the case that all non-undergoer themes are marked by with, but only those occurring with a subclass of verbs which have goal arguments. There are other non-undergoer themes which are not marked by any preposition at all. These are found with verbs of transfer like give,

\(^{13}\) Van Valin and LaPolla reverse the order of the arguments of be-at’, so that the theme is the second argument of a two-place state predicate of location (1997:114).

\(^{14}\) Unless otherwise stated, verbs with a theme and locative argument are assumed to have variable linking to undergoer. See § 2.4.3.

\(^{15}\) Foley and Van Valin (1984) list the theme argument first and the locative argument second.

\(^{16}\) There is a larger group of non-alternating verbs, the Cheat verbs (Levin, 1993:§10.6) which includes rob, relieve etc.
send, hand, throw and pass (Foley and Van Valin, 1984:87). For example, in (84) the theme is the undergoer, but in (85) it is not:

(84) John handed a lemon to Bill.
(85) John handed Bill a lemon.

All three arguments in (85) are direct core arguments and the displaced theme is not marked by with.

The default assignment of macroroles is the agent to actor and the theme to undergoer. If the theme is not the undergoer, it should be marked by with. However, Van Valin and LaPolla (1997:667 fn18) cite the ‘dative shift’ verbs as exceptions to the rule for assigning with but do not clarify how this would be achieved. Presumably this class of verbs would have a specification added to its logical structure that the non-default assignment would be three direct core arguments, with the recipient as the undergoer (first object) and the theme the second object. This kind of specification is analogous to those Van Valin and LaPolla suggest for verb classes with three arguments but which do not allow undergoer alternation. An example is the verbs of a certain kind of transfer of possession including take, buy, get and steal. For these verbs, a specification such as U=z (which means that the theme maps to undergoer) must be added to the LS to block the mapping of the possessor to undergoer (Van Valin and LaPolla, 1997:157). Otherwise, Van Valin and LaPolla assume that most verbs with both theme and locative arguments have an alternation. The ‘dative shift’ verbs could be labelled as a class such that when the recipient is selected as undergoer, the mapping to syntax includes three direct core arguments.

An alternative method is to state the constraint as a lexical principle on the dative verb class that its non-default subcategorisation frame is three direct core arguments. This is analogous to the principle that the first argument of perception verbs must be sentient (Van Valin and LaPolla, 1997:156). This is another kind of information added to logical structure.

3.3.1.3 Summary

RRG, unlike the other two theories discussed in this chapter, has an explicit account of the assignment of with to a theme, and its rule is intended to cover all with-phrases. The rule for assigning with predicts that agents which are not actors and themes which are not undergoers are marked by with. Although this does not seem to be accurate for actors, because it does not take into account the role of effectors, the status of actors is not crucial for this thesis.

The rule predicts that a theme, as the default undergoer in the absence of a patient, will be marked by with if it is displaced from undergoer status. This prediction is accurate for themes which cooccur with other themes, and themes which cooccur with locatives. However, it
encounters a problem with dative shift verbs such as *give* and *send*, which require a second object instead of a *with*-phrase when the theme is not undergoer. It follows that in RRG, dative shift verbs must have a lexical specification that assigns the double object structure.

### 3.3.2 Core and Peripheral Arguments

Foley and Van Valin (1984) distinguish between core and peripheral arguments, where core arguments are the semantic arguments of the verb and peripheral ‘arguments’ are adjuncts. In relation to the transfer verbs such as *give*, the theme argument, being a core argument, does not receive the preposition *with* because ‘*with* can only mark a peripheral argument’ (Foley and Van Valin, 1984:89). This could either mean that *with* only marks adjuncts, or that all PPs are by definition in the periphery. However, later changes introducing subcategories of core arguments allowed for PPs to be kinds of core arguments.

In original RRG, core arguments were limited to bare NPs. For example, in Foley and Van Valin (1984), transfer verbs were exceptional in allowing three core arguments, while most verbs allow a maximum of two core arguments. What this refers to is ‘direct core arguments’, which are arguments that are realised as bare NPs.

The concept of oblique core arguments was introduced in Van Valin (1993). An oblique core argument is an argument in the core which is marked by a preposition. An example of such an oblique core argument is illustrated in Figure 3.11 which is the LSC for the clause in (74). By this definition, *with* can mark a core argument, and the fact of the third argument’s being a core argument does not block the selection of *with*. However, *with* can only mark an oblique core argument, and not a direct core argument. To salvage their explanation of why the non-undergoer themes of transfer verbs are not marked by *with*, RRG must specify that transfer verbs have three direct core arguments and *with* cannot mark a direct core argument. A *with*-phrase can never be a direct core argument – the presence of the preposition blocks this.

However, some *with*-phrases deserve to be in the core because they have the potential to alternate as direct core arguments (Van Valin and LaPolla, 1997:30). *With*-phrases that have this potential are certainly core arguments, but the preposition marks them as oblique core arguments. Van Valin and LaPolla cite *present*, *supply* and *award* as examples (1997:30).

Other PPs lie clearly in the periphery, for they can never alternate as direct core arguments and they are semantically and syntactically optional. These are adjuncts, and *with*-phrases that fall into this category include adjuncts of manner and attribute.

The boundary between the core and the periphery is not well defined, and since both oblique core arguments and adjuncts are realised as PPs, it is often difficult to label a PP as being clearly an adjunct or clearly an argument. This will be discussed further in Chapter 4.
3.3.3 *With*-phrase Adjuncts

An adjunct is neither semantically nor syntactically required by the verb in the clause. As a non-argument, it does not appear in the core of the clause but in the periphery.

There are two main kinds of adjunct *with*-phrase: manner and attribute. These two of course are very different from the non-actor agents and non-undergoer themes because they are not arguments of the verb, and so have no opportunity to be actors or undergoers (Van Valin and LaPolla, 1997:380). Nevertheless these NPs are preceded by *with* and Van Valin and LaPolla seek to explain the assignment of the preposition *with*.

The manner *with*-phrase can be paraphrased as an adverb, and Van Valin and LaPolla have it as a predicate modifying the whole event (Van Valin and LaPolla, 1997:381). Here the adverbial form is assumed to be the default realisation, and the alternative realisation as the NP is therefore marked by the preposition *with*. The reason for this is partly because *with* is the ‘primary non-locative preposition in English’ (Van Valin and LaPolla, 1997:381).

An example of a *with*-phrase that is a manner adjunct is given in (86) and its LSC is shown in Figure 3.13.

(86) Abdul ate cereal with enthusiasm.

The NP *enthusiasm* is circumstantial information about the event, and is external to the core of the clause, as Figure 3.13 shows.

This means that the adjunct is in fact modifying the whole core of the clause, and in the LS it takes the rest of the clause as an argument as in (87). In logical structure the adjunct phrase takes the form of a predicate, and it is identical with the adverbial form *enthusiastically* (Van Valin and LaPolla, 1997:381).

(87) **enthusiastic** (do’, (Abdul, [eat’ (Abdul, cereal)]))

17 While these two uses of *with* (attributive and manner) do not refer to the actor-undergoer hierarchy at all, Van Valin and LaPolla claim that they are non-default realisations, that is, like the displaced undergoers and actors these roles are displaced from their default realisations. However, they admit that the manner phrase does not follow literally from their *with*-assignment rule but is ‘a natural extension of it’ (Van Valin and LaPolla, 1997:382).
The other kind of *with*-phrase that is an adjunct is one which refers to an attribute of an NP, such as (88):

(88) The woman with strong arms
(89) The woman’s strong arms

The attributive phrase is characterised as a type of possession (Van Valin and LaPolla, 1997:380). Its LS would be as in (90):

(90) `have.as.part’ (woman, strong arms) (Van Valin and LaPolla, 1997:380)

In (88), *woman* is chosen as the head of the NP, while if the other NP is chosen the result will be as in (89). Van Valin and LaPolla assume (89) as the default realisation of possession, and when the possessed is displaced from the position of head in the NP it is marked by *with*.

3.3.4 *With*-phrases that are Argument-adjuncts

RRG also argues that there is an adjunct that appears in the core of the clause. This constituent is labelled ‘argument-adjunct’, because it has both argument and adjunct properties. It
is not a true adjunct because it does not modify the whole clause, nor is it a true argument of the verb in the nucleus.

An argument-adjunct with-phrase is an implement, a subcategory of instrument. The term instrument could be applied to a wide range of with-phrases in different thematic role systems. In RRG, two groups are identified within the broader class of potential instruments: instrument and implement. An instrument with-phrase is a subset of the displaced actors described in §3.3.1.1. An instrument is an effector-theme and may alternate as subject of the verb. An implement differs from an instrument because it is not part of a causal chain (Van Valin and LaPolla, 1997:121). It can be seen from the LS in (92) that there is no CAUSE operator for this clause.

(91) Abdul ate the cereal with a spoon. (=3.43a)
(92) do’ (Abdul, [eat’ (Abdul, cereal) ∧ use’ (Abdul, spoon)]) (=3.44)

In this clause, the spoon is an implement which enables an action (eating) to be performed. The implement is the argument of use, not of the verb in the clause, eat. Even though the implement may be moved it is not a theme in RRG, because use is not a verb of location or motion. Nevertheless, some of the with-phrases which are defined as themes in this thesis are implements and argument-adjuncts in RRG:

(93) John swatted the fly with a teatowel.
(94) do’ (John, [swat’ (John, fly) ∧ use’ (John, teatowel)])

An instrument can (if the real-world context allows) become the subject of the verb, but an implement cannot carry out the action of the verb, and so cannot become its subject.

(95) The forklift lifted the boxes.
(96) * The fork ate the potatoes.

An instrument such as the forklift is a core argument, either direct (as the subject) or oblique (as a with-phrase). An implement is an argument-adjunct because it is not conceptually necessary therefore not an argument of the verb.

3.3.5 Three types of preposition

In the framework of RRG, Jolly (1993) proposed three kinds of prepositions, based on two criteria: whether they are predicative or not, and whether they are part of the core or the periphery.
The term ‘predicative adposition’ is attributed to Bresnan (1982b:303) by Van Valin and LaPolla (1997:52). A predicative preposition functions as a predicate and licenses its object (Van Valin and LaPolla, 1997:52). A non-predicative preposition does not license its object; the object NP is licensed by the verb, and hence is an argument of the verb. Another way of looking at it is that non-predicative prepositions show syntactic relations, acting like case-markers, while predicative prepositions show semantic relations and add circumstantial information (Jolly, 1993:275).

Many prepositions, including *with*, can be either predicative or non-predicative depending on the verb with which they occur (Van Valin and LaPolla, 1997:53). *With* is non-predicative when it occurs with *present* which licenses a theme argument, as in John presented a girl with some flowers. *With* is predicative with a verb like *beat* as in Bill beat the eggs with a spatula.

3.3.5.1 Argument-marking prepositions

The argument-marking preposition is non-predicative and appears in the core of the clause. In English, a non-predicative preposition always marks an oblique core argument and there is no non-predicative PP in the periphery (Van Valin and LaPolla, 1997:52). It is the verb that licenses the NP, not the preposition. Evidence for this is that the NP may sometimes occur without the preposition, as an object. This results in the alternations described in this chapter and in the next chapter. For example, the theme argument of *present* can appear as the object without the preposition *with*:

(97) John presented some flowers to a girl.

It is not the preposition *with* that licenses the theme, but the verb *present* which requires a theme argument.

3.3.5.2 Adjunct prepositions

Adjunct prepositions are predicative and appear in the periphery of the clause. PPs outside the core of the clause do not mark arguments, and therefore their prepositions must be predicative. This kind of PP is a separate entity from the core of the clause and has its own core with the predicative preposition as the nucleus and the NP as the argument.

The contrast between the predicative and non-predicative PP is shown in Figure 3.14. These can be related to the example sentences:

(98) John read a book in the library. (predicative)
(99) John gave a book to Mary. (non-predicative)
PPs in the periphery modify the whole core of the clause. Hence in the logical structure, the preposition is the main predicate and the LS of the verb of the clause is one of its arguments (Van Valin and LaPolla, 1997:159). Van Valin and LaPolla give this example, with its LS as in (101) and LSC as in Figure 3.15:

(100) Sam baked a cake in the kitchen. (= 4.19a)
(101)  \textbf{be-in'} (kitchen,[[\textbf{do'} (Sam, Ø)] \textit{CAUSE} \textbf{BECOME baked'} (cake)]) (= 4.19b)

The locative \textit{in} is predicative in this clause and the event of baking is treated as an entity being located in space.

\subsection*{3.3.5.3 Argument-Adjunct prepositions}

The third kind of preposition proposed under RRG is the Argument-Adjunct preposition, a predicative preposition which appears in the core of the clause. Like the Adjunct preposition, it is predicative, but it introduces an argument of the verb rather than a modifier. This is best illustrated with an example of an activity verb, such as \textit{run} (Van Valin and LaPolla, 1997:160).

(102) a. Paul runs.

    b. Paul runs to the store.

    c. \textbf{do'} (Paul, [\textbf{run'} (Paul)]) \& \textbf{BECOME be-at'} (store, Paul) (= 4.21c')

\textit{To} here is predicative because it licenses the goal NP, \textit{the store}. The goal, if stated, is a semantic argument of the verb \textit{run}, but this argument is not part of the meaning of the verb and does not appear in its LS. \textit{To} has its own LS which includes the new argument, and \textit{to}'s LS also shares the theme argument with the verb (Van Valin and LaPolla, 1997:160). That is, \textit{Paul} appears in both parts of the LS. Unlike the adjunct preposition, this kind of preposition does not take the core of the clause as one of its arguments.

The Argument-Adjunct preposition is not in the periphery, because the PP does not modify the whole core of the clause\textsuperscript{18}. So it must be a part of the core of the clause, while still not being a true argument of the verb in the nucleus (Van Valin and LaPolla, 1997:161). This position, or grammatical relation, is characterised in RRG as AAJ, argument-adjunct, a PP in the core but distinct from the argument-marking PP in that it is the nucleus of its own core. The LSC for a sentence with an Argument-Adjunct preposition is shown in Figure 3.16.

Three situations are identified where an argument-adjunct can occur (Van Valin and LaPolla, 1997:161). First, like the example above, with verbs of motion, an AAJ can show the range of motion, such as SOURCE, PATH and/or GOAL. This is plausible because while these locatives are normally considered arguments of verbs of motion they are not conceptually necessary or inherent in those verbs\textsuperscript{19}. The second opportunity for AAJ is as a beneficiary argument: in

\textsuperscript{18} In this example, it might seem that the locative \textit{to the store} modifies the whole clause. This is because Paul is the theme as well as the agent. A clearer example might be \textit{Paul threw the ball over the fence}, where only the ball is entailed to go over the fence, not Paul. Thus the PP cannot modify the whole clause.

\textsuperscript{19} I assume that all verbs of motion can take optional arguments which include the range of motion e.g. source or goal. The exception is verbs which do not specify a manner of motion, such as \textit{come} and \textit{go}; their source or goal argument may be obligatory, hence an argument not an argument-adjunct.
English, this would be with the preposition *for*. Again, this kind of PP is considered by many to be an argument when it appears, but not a conceptually necessary one. The third occasion for an AAJ to appear is as an IMPLEMENT with certain activity verbs, such as *eat, look at, sew, fight* and *write*. The latter category of argument-adjuncts has *with* as the preposition. (See §3.3.4).

![Figure 3.16 LSC containing an argument-adjunct (from Van Valin and LaPolla, 1997:162, Fig. 4.4)](image)

### 3.3.6 Summary

RRG identifies five kinds of *with*-phrase: attributive, manner, instrument, displaced actor and displaced undergoer (Van Valin and LaPolla, 1997: 377). The ones that are most likely to be arguments are those which are displaced from actor and undergoer positions. Actor and undergoer, being macroroles, are arguments of the verb, and the demoted elements still remain arguments even when they appear in *with*-phrases.

The actors which are displaced in fact turn out not to be canonical arguments. They are still semantic arguments, if the *with*-variant is considered semantically equal to the compound variant. But the *with*-phrase actors are not syntactic arguments because they are always optional. The reason is that actors cannot be removed from the subject position because they are the highest thematic role. The actor/agent cannot be in a PP while another semantic role takes the subject
position (except with passive verbs). Therefore the actor/agent must leave its partner or coagent in the subject slot, and this makes the *with*-phrase redundant. Therefore these *with*-phrases are really adjuncts.

The non-undergoer themes which appear in *with*-phrases have a higher argument status compared to the non-actor agent *with*-phrases. Like the non-actor agents, the non-undergoer themes are semantic arguments, but unlike the actors, they are often obligatory. All themes in RRG are arguments, either direct core arguments if they are objects, or oblique core arguments if they are expressed as *with*-phrases. The non-undergoer themes are less likely to share the same role as the object, for while the subject and actor *with*-phrase are both often agents, the *with*-phrase and the object are less likely to both be themes. Instead, the motion theme *with*-phrase more commonly occurs with a locative or recipient direct object. Although not classified as themes in RRG, some motion theme *with*-phrases are argument-adjuncts, and these are optional.

The three-way classification of *with*-phrases as arguments, adjuncts and argument-adjuncts helps to capture the disparate nature of these PPs in syntax. Some *with*-phrases (the themes of *Present* verbs, see §4.1.2.1) are clearly arguments, and some are clearly adjuncts (manner and attribute phrases). Other *with*-phrases are argument-adjuncts and they are part of the core of the clause in RRG because they share an argument with the verb. With these three argument types, *with*-phrases of different argument status are well covered in this framework.

### 3.4 Conclusion

This chapter has described the position of the *with*-phrase with respect to the grammatical relations hierarchy and linking principles in each theoretical framework. Based on standard works in the literature, I have described where *with*-phrases fit and what, if any, significance the preposition *with* has in the framework. It cannot be assumed that, because they are PPs, all *with*-phrases are adjuncts. Some *with*-phrases are arguments and some are adjuncts in all these frameworks, and the mapping of themes to grammatical relations varies between frameworks.

Having said that, LFG is the framework which is least likely to map a *with*-phrase to an argument function. Only the *with*-phrase which refers to an instrument is regularly mapped to the OBL function, an argument function in LFG. This leaves other *with*-phrases as ADJ, or adjuncts, which of course are not argument functions. Even the theme of *present*, which seems the most argument-like of all the *with*-phrases, is not predicted to be an OBL under Lexical Mapping Theory. When it is not an object, the theme of *present* is predicted to map to OBJ<sub>0</sub>, and since this function is expressed as a bare NP in English, this prediction is false. Possible techniques for mapping the theme to an OBL with the preposition *with* are suggested in Chapter 5.

In RG, most *with*-phrases are initial and final obliques, as are PPs in general, with the exception of the *to*-object. However, it is possible to argue that themes are 2-chômeurs, assuming
that they are initial 2s according to the Universal Alignment Hypothesis. In the field of transfer of possession, themes are initial 2s as evidenced by the dative alternation, but in the field of translocation, the analysis of the theme as initial 2 is not as automatic. The location may alternatively be viewed as the patient, so it is assigned the initial term 2. If this is the case, then the with-phrase themes of different verb classes would have different grammatical relations.

In RRG, almost all with-phrases are arguments, due to the broad definition of argument which includes all semantic arguments. Only a with-phrase which represents an implement (that, is, a tool which has a facilitating but not a causal effect on the event) is assigned the relation argument-adjunct in RRG, and only a manner type with-phrase is an adjunct in this theory. This means that themes are always arguments, either direct core arguments if they are objects, or oblique core arguments if they are expressed as with-phrases.

To sum up, motion theme with-phrases may be always arguments, as in RRG, always adjuncts, as in LFG, or sometimes arguments and sometimes adjuncts, as in RG. This treatment of themes seems to ignore the differences between the motion themes of different verb classes, such as Present verbs and Hit verbs, which are assumed to have different levels of argument status. The next chapter looks more closely at the argument status of motion theme with-phrases of individual verb classes using standard tests for argumenthood. Testing verbs with different kinds of themes should reveal exactly how argumentlike they are and whether there are gradations of argument status based on the semantic features of the theme.
4 Evidence for the Argument Status of Motion Theme

4.0 Introduction

Determining whether a particular *with*-phrase is an argument or adjunct is crucial to the assignment of its grammatical relation in most syntactic frameworks, for not all *with*-phrases are equal in this respect. Moreover, the term *argument* refers to both syntactic and semantic arguments and a *with*-phrase may be one or both or neither of these. Simply stated, an argument is an obligatory element, whereas an adjunct is optional. However, semantic arguments and syntactic arguments do not always coincide.

For an NP to be an argument is to have a certain relationship with the verb. A syntactic argument is an NP which is required by the verb. The object is obviously an argument of the verb, and the subject (except for expletives) is also traditionally considered an argument. However, other NPs and PPs may or may not have argument status. The object (or internal argument) relation could be described as ‘closer’ than all the others, because in English the object appears linearly before any other NPs or PPs in the VP. Therefore, if an NP can appear in the object position this is strong evidence that the NP has a close grammatical relation with the verb and is an argument of that verb (Van Valin and LaPolla, 1997:29-30).

Some NPs that appear as complements of *with* in PPs can alternate as the object of the same verb in a variant syntactic realisation. Since the verb is the same, it may be assumed that the argument which appears in the *with*-phrase maintains a close relationship with the verb and, by extension, the same kind of *with*-phrase occurring with other verbs with similar semantic features, that is, where there are similar thematic relations between the verb and the *with*-phrase, should also have a close relationship with the verb.

A semantic argument is one whose role is essential to the meaning of the verb (Schlesinger, 1995:42). Pollard and Sag (1987:132) describe these roles as ‘ontologically necessary’. That is, the situation described by the verb must involve a participant with the role in question. A syntactic argument must also be a semantic argument (except for those with no semantic content), but not vice versa.

This chapter examines the status of motion theme *with*-phrases as syntactic and semantic arguments. Several classic syntactic and semantic tests for argumenthood are introduced and

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1 Much recent work disputes the argumenthood of the subject (Borer, 1993; Kratzer, 1996; Marantz, 1998).

2 An exception is the fake reflexive which occupies object position but is not an argument of the verb, e.g. *He laughed himself silly.*
applied to the with-phrases selected. While no one test is sufficient to determine argument or adjunct status, a combination of tests should indicate which with-phrases are more argumentlike. Further evidence for argument status is found in the potential of the NP in some with-phrases to alternate as the subject or object of the same verb, and this is discussed in § 4.1.

4.1 The alternations

In this first section, I look at the complements of with that can alternate as objects or subjects. These are the ones that seem to have a close association with the verbs. I take this as the first indication of argument status of the NPs in the with-phrases.

4.1.1 Verbs which take theme with-phrases

A theme is defined by Gruber (1965) cited by Jackendoff (1990a:46) as: ‘the object in motion or being located’. Many current theories do not retain the label theme for located entities. For example, the book in the book is on the table, is a Jackendovian theme. I refer to the located entity as a location theme in contrast to the motion theme. The difference between the two kinds of Gruber/Jackendoff themes is significant. The behaviour of the location theme is slightly different from the motion theme; for example, it alternates with a subject rather than an object (see §4.1.3).

Themes that appear in with-phrases have been described as displaced themes. This term was used by Rappaport and Levin (1988:28) and refers to the fact that themes are normally realised as direct objects. Rappaport and Levin identify four semantic classes of verbs which take displaced themes with with: Spray/Load verbs, Inscribing verbs, Presenting verbs and Forceful Contact Verbs. I will refer to these as Load verbs, Inscribe verbs, Present verbs and Hit verbs respectively.

Rappaport and Levin mention only these four classes because their paper concentrates on the locative alternation. However, there are other verb classes which could be said to take displaced themes, in that the theme is the direct object in one variant and the complement of with in the other variant. These verbs participate in alternations other than the locative alternation. These are the Mix verbs, Group verbs, Fill verbs and Swarm verbs. There are also similar verbs which do not alternate at all, in that the theme is always in a with-phrase. These are the Illustrate verbs, Equip verbs, Swat verbs, Pelt verbs, Bulge verbs and Butter verbs. All these verb classes take theme with-phrases.

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3 The idea of displacement is also captured in RRG with its analysis of a non-undergoer theme, and also in RG with its 2-chômeur, initially a 2.
Each verb class is discussed separately in the sections below. The motion theme complements of *with* that alternate with objects are discussed in § 4.1.2 and the location themes which alternate with subjects in § 4.1.3.

Table 4.1 summarises the alternations in which a *with*-phrase alternates with either the subject or object of the verb.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Example</th>
<th>Verb Class</th>
<th>Alteration (Levin, 1993)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object</td>
<td>The mayor presented Bill with a medal. The mayor presented a medal to Bill.</td>
<td><em>Present</em></td>
<td>Fulfilling 2.6</td>
</tr>
<tr>
<td>Object</td>
<td>Kim sprayed the wall with paint. Kim sprayed paint on the wall.</td>
<td><em>Load</em></td>
<td>Spray/Load 2.3.1</td>
</tr>
<tr>
<td>Object</td>
<td>Bill hit the fence with the stick. Bill hit the stick against the fence.</td>
<td><em>Hit</em> (some)</td>
<td>With/Against 2.8</td>
</tr>
<tr>
<td>Object</td>
<td>Kim pierced the cloth with the needle. Kim pierced the needle through the cloth.</td>
<td><em>Hit</em> (some)</td>
<td>Through/With 2.9</td>
</tr>
<tr>
<td>Object</td>
<td>He engraved the pen with his initials. He engraved his initials on the pen.</td>
<td><em>Inscribe</em></td>
<td>Image/Impression 2.7</td>
</tr>
<tr>
<td>Object</td>
<td>They integrated the library card with the student ID card. They integrated the library card and the student ID card.</td>
<td><em>Mix verbs</em></td>
<td>Simple Reciprocal (Transitive) 2.5.1</td>
</tr>
<tr>
<td>Object</td>
<td>I grouped the pens and the pencils together. I grouped the pens with the pencils.</td>
<td><em>Group and some Mix</em></td>
<td>Together Reciprocal (Transitive) 2.5.2</td>
</tr>
<tr>
<td>Subject</td>
<td>The eggs mixed with the cream. The eggs and the cream mixed together.</td>
<td><em>Group and some Mix</em></td>
<td>Together Reciprocal (intransitive) 2.5.5</td>
</tr>
<tr>
<td>Subject</td>
<td>The eggs combined with the cream. The eggs and the cream combined.</td>
<td><em>Mix</em></td>
<td>Simple Reciprocal (intransitive) 2.5.4</td>
</tr>
<tr>
<td>Subject</td>
<td>The garden swarmed with bees. Bees swarmed in the garden.</td>
<td><em>Swarm</em></td>
<td>Swarm 2.3.4</td>
</tr>
<tr>
<td>Subject</td>
<td>John adorned the tables with flowers. Flowers adorned the tables.</td>
<td><em>Fill</em></td>
<td>Locatum Subject 3.5</td>
</tr>
</tbody>
</table>

Table 4.1 The alternations between *with*-phrases and subjects and objects of the verb, based on Levin (1993).

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*Mix verbs plus compare, confuse and muddle. See § 4.1.2.5 fn 6.*
4.1.2 Alternations of Motion Theme *with*-phrases with Objects

The NPs in some *with*-phrases can function as objects in alternative expressions of the same event. Levin (1993) has identified several different object alternations involving *with*-phrases, named according to the prepositions used or the semantics of the verbs. All the alternations selected here have in fact the same pattern:

(1) Agent verb x *with* y.
(2) Agent verb y P x.

This section introduces several classes of verbs whose theme can alternate as a *with*-phrase or direct object of the verb.

4.1.2.1 Present Verbs

One kind of *with*-phrase that can alternate as an object appears with certain verbs of transfer of possession and the theme is the thing that is transferred. This alternation occurs only with the following verbs: *present, provide, credit, entrust, furnish, issue, leave, serve, trust* and *supply*, as exemplified in (3):

(3) The mayor presented Bill with a medal.

In (3) the recipient, *Bill*, is the direct object and *with a medal* is a PP argument. As we have seen in Chapter 3, the combination of a recipient object and a *with*-phrase is exceptional in English and requires a different analysis from other transfer verbs.

The alternative is for the theme to be the direct object and the recipient to be a *to*-object:

(4) The mayor presented a medal to Bill.

Levin refers to this alternation as the ‘Fulfilling Alternation’ based on the class of verbs which show this alternation (Levin, 1993:65). Both arguments are obligatory in both variants of the alternation.

4.1.2.2 Load Verbs

The *Load* verb class includes many verbs which describe the manner of putting, including *brush, cram, drape, scatter* and *smear*. For the full list of verbs see Appendix 1. These verbs participate in the *Spray/Load* Alternation (Levin, 1993:50) where the theme complement of *with* alternates as a direct object. The *with* variant is illustrated here:
Kim piled the table with the books.

In this realisation, the location the table is the direct object because it undergoes a change of state as the result of the loading event.

Alternatively, the theme in the with-phrase can be realised as object, because it undergoes a change of location, and then the location would appear in a locative PP:

Kim piled the books on the table.

The books is the theme in both variants by the Gruber/Jackendoff definition because it is moved. It is a motion theme.

In the Spray/Load Alternation, the argument which is realised as the direct object is assumed to be completely affected (Rappaport and Levin, 1988:19; Levin, 1993:50). This holistic effect supports a different definition of theme as the ‘affected entity’ (Rappaport and Levin, 1988:21). Rappaport and Levin refer to an argument such as the books as a ‘theme of change of location’ and the table as a ‘theme of change of state’ (Rappaport and Levin, 1988:29). Such a concept of theme is inconsistent with that used in this thesis. Furthermore, the ‘theme of change of state’ is irrelevant to the with-phrase because this theme is never realised as a with-phrase (Rappaport and Levin, 1988:29). If it is not a direct object its preposition is a locative preposition as in (6).

4.1.2.3 Hit Verbs

The Hit verbs encompass verbs of forceful contact, such as hit, bang, kick, knock, tap and whack as well as Levin’s Poke verbs (Levin, 1993:§19), such as dig, jab and poke. See Appendix 1 for the full list. The actions described by these verbs involve an entity which is moved (the theme) to come into contact with another entity or location. In some cases, the theme may be considered an instrument, but as it fits the definition of ‘an object in motion’ I have classified this with-phrase as a motion theme with-phrase.

Either the theme or the location can be expressed as the object of the verb. When the theme is the object, the location is expressed as a PP with against as in (8), or into for the Poke verbs as in (10):

Bill hit the fence with the stick.
Bill hit the stick against the fence.
Bill poked the rubbish bag with a stick.
Bill poked the stick into the rubbish bag.

The table is not a theme by the Gruber/Jackendoff definition used in this thesis.
These verbs strongly imply but do not necessitate the presence of a theme and this motion theme may be a body part:

(11) Bill bumped the table with his knee.
(12) Bill bumped his knee against/on the table.

The theme may be omitted, but not the location. This means that if the verb has only two arguments, the object will always be interpreted as the place or thing which receives the impact. *Bill hit the stick* would normally be interpreted with the stick as the target, and Bill using his hand or another object to hit it.

With some *Hit* verbs, the preposition *on* can also be used as in (12). Likewise the *Poke* verbs can be used with the preposition *through* instead of *into*, with a slight difference in meaning:

(13) Bill poked the stick through the rubbish bag.

The preposition is different only because the motion of the action follows a different path. The *with*-phrase always refers to the thing that is moved, that is, the theme.

### 4.1.2.4 Inscribe Verbs

The *Inscribe* verbs are *appliqué, emboss, embroider, engrave, etch, imprint, incise, inscribe, mark, paint, set, sign, stamp* and *tattoo* and this class of verbs denotes the creation of an image.

The image is not such a clear theme as many of the other NPs in *with*-phrases. Its definition as a theme depends on whether or not it is seen as something that is placed in a specified location. In a different system, the thematic role of the image may be Fillmore’s factitive: ‘the object … resulting from the action’ (Fillmore, 1968:25). Nevertheless I assume it qualifies as a theme because something is placed in a location.

The object of *with* is the image created and it alternates as the direct object of the verb. When the image is the direct object, the location of the image appears in a PP:

(14) He engraved the pen with his initials.
(15) He engraved his initials on the pen.

This alternation is similar to that of the *Load* verbs (4.1.2.2), but without a concrete object involved.
4.1.2.5  Mix and Group verbs

The Mix and Group classes of verbs share the semantic feature of combining or attaching. Although this is often in a figurative sense, combining and attaching refer to change of location; therefore the things that are combined can be considered themes. These verbs can be divided into classes based on their participation in two reciprocal alternations (Levin, 1993:99).

A unique feature of these verbs is that either of the theme NPs can appear in the with-phrase without any change in meaning, or simply with a change in perspective.

(16)  I beat the sugar with the butter.
(17)  I beat the butter with the sugar.

This is mainly because the two NPs have the same thematic role, but it also implies that they are of equal grammatical status.

All these verbs can take either an object and a with-phrase, or a conjoined object. They differ as to whether they take the adverbial together in the conjoined object variant. The Mix verbs describe the end state of the combining action, while Group verbs describe the manner in which things are combined. For this reason, Group verbs must take together in the conjoined object variant. Levin further divides the Mix verbs into Amalgamate verbs which cannot take together and Mix verbs which may or may not take together.

The Mix verbs are Levin’s Amalgamate verbs (Levin, 1993:§22.2), which include alternate, amalgamate, coalesce, conjoin, entangle, incorporate, integrate, intermingle, mate, pair, team, total, and coincide, and Levin’s Mix verbs (Levin, 1993:§22.1) which are blend, combine, connect, fuse, join, link, merge, mingle, mix and pool. See Appendix 1 for the full list. The use of together is not obligatory for any of these verbs in the conjoined object variant. Together is impossible for the Amalgamate verbs and optional for blend, combine, connect, fuse, join, link, merge, mingle, mix and pool. In this alternation there is either a conjoined object or a direct object plus a with-phrase:

(18)  I compared the apple with the orange.
(19)  I compared the apple and the orange.
(20)  John mixed the butter with the sugar.
(21)  John mixed the butter and the sugar (together).

Both object NPs have the same role and are interchangeable without affecting the meaning. The and variant can only be used if the two NPs are of comparable status (Levin, 1993:59):

(22)  John interspersed his story with jokes.
(23) *John interspersed his story and jokes.

The second class of combining verbs is the Group verbs, which are band, bundle, cluster, collate, gather, group herd, lump, mass, package, pair, beat, jumble, roll, scramble, shake, shuffle, stir, whip and whisk. These verbs only show the Together Reciprocal alternation. That is, the two ingredients are not understood to be combined when joined with and unless together is also added:

(24) The farmer grouped the lambs and the hoggets. (= The farmer grouped the lambs and grouped the hoggets.)

The sentence without together is grammatical, but does not mean that the two themes were combined.

These are some examples of Group verbs:

(25) Bill stirred the red paint with the yellow paint.
(26) Bill stirred the red paint and the yellow paint together.
(27) The farmer grouped the lambs with the hoggets.
(28) The farmer grouped the lambs and the hoggets together.

The use of together may not be so relevant for the argument status of the with-phrase. All these verbs have similar semantic features, and all the with-phrases can alternate with a conjoined object. For this reason, two of Levin’s verb classes (Mix and Amalgamate) have been conflated into the Mix verbs.

A more important point is that most Mix verbs have an intransitive variant, while most Group verbs do not (Levin, 1993:160-2). This means that the themes of verbs like mix have the potential to appear as subject, either singly (29) or conjoined (30):

(29) The soap mixed with the water.
(30) The soap and the water mixed.

In these examples there is no direct object and the verb is intransitive. It is remarkable that the themes of Mix verbs can be expressed as either subjects or objects or complements of with, and this would suggest that they are definitely arguments of the verb.

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The exceptions are compare, confuse and muddle. For this reason, I include compare, confuse and muddle in the Group verb class.
4.1.2.6 Summary

Themes that alternate as direct objects seem to be the prime candidates for argument status. The alternation of the motion theme in the *with*-phrase as a direct object provides evidence for the argument status of these themes.

Most of these NPs are conceptually necessary participants in the event, because the motion theme is assumed to exist even if it is not expressed overtly. Thus, they are semantic arguments of their verbs.

4.1.3 Alternations of Motion Theme *with*-phrases with Subjects

Because themes are on the lower end of most thematic hierarchies, they are more likely to appear as objects than subjects. However, although the *with*-phrases introduced below are themes, they alternate with subjects rather than objects.

One condition for the theme to be a subject is the absence of an agent. The other relevant factor is that only location themes, not motion themes, alternate as subjects. Both the verb classes cited below refer to the location of entities rather than actions by agents towards patients. Their themes are location themes rather than motion themes.

4.1.3.1 Swarm Verbs

One kind of theme that alternates as a subject is the location theme in the Swarm alternation (Levin, 1993: §2.3.4). The verbs that participate in this alternation are intransitive, and the other argument may be considered a locative:

(31) The parapets fluttered with flags. (*with*-variant)
(32) Flags fluttered on the parapets. (locative variant)

The complement of *with* may be animate or even human, but it is not considered an agent, because the *with*-variant is descriptive of the ‘dynamic texture’ of a location rather than the activity of agents (Dowty, 2000:123). For example, the fluttering of flags describes the dynamic texture of the parapets in (31).

Dowty (2000) argues that the two variants of the Swarm verbs have quite different semantic purposes and should not be considered as participating in an alternation. The *with*-variant is much more restricted than the locative variant: fewer verbs have the *with*-variant and the object of *with* must be semantically ‘unquantified’ (Dowty, 2000:116-7). That is, it cannot be singular or represent a specific number (Dowty, 2000:123).

(33) *My philodendron is crawling with a snail.*
Levin claims that the with-variant has a holistic reading for the location (1993:54), but Dowty attributes the distributive reading to the dynamic texture description which applies to the whole location (2000:124).

The verbs that participate in this alternation include verbs of existence such as Swarm verbs (Levin, 1993, §47.5.1), Echo verbs (47.4), Blossom verbs (47.2) and some Flutter verbs (47.3). Verbs of light emission (Levin, 1993, §43.1) (Sparkle verbs), and verbs of sound emission (Levin, 1993, §43.2) (Buzz verbs) participate in this alternation (Levin, 1993:53). The full list of verbs is found in Appendix 1.

The locative variant of the Swarm verbs has an alternate interpretation as an event where the subject can be interpreted as an actor (Schlesinger, 1995:128):

(36) Dew glistened on the grass. (State or event readings)
(37) The grass glistened with dew. (State only)

The differences between the two variants make it very difficult to draw any conclusions about the argument status of the with-phrases. This alternation does not provide good evidence that the location theme is an argument, because the thematic roles are not the same in the two variants. In (36) dew is an actor, while in (37) grass is the location and an unaccusative patient, and dew is the theme.

4.1.3.2 Fill verbs

The Fill verbs have meanings similar to Load verbs. This is a large class including adorn, blanket, decorate, fill and cover. See the full list in Appendix 1. Fill verbs do not participate in the Locative alternation, but they do participate in the Locatum Subject Alternation, this alternation being similar to the Swarm alternation in that the theme alternates as subject or PP, but it is a transitive alternation with the locative as object as in (38) and (39):

(38) John adorned the tables with fresh flowers.
(39) Fresh flowers adorned the tables.

If the agent is not present, the theme can take the subject position. Levin (1993:81) labels this the Locatum Subject Alternation, but locatum simply means the entity whose location is described, which is a theme according to Jackendoff’s definition cited above (§4.1.1).
The theme subject in (39) is unlike the agent subject in (38). It is an underlying object by the Unaccusative Hypothesis (Perlmutter and Postal, 1984:94). The theme is not a prototypical subject because it cannot be expressed as a by-phrase in the passive:

(40) *The tables were adorned by flowers.

Like all themes it is an initial 2 in RG, and in LFG its [-r] attribute allows it to be a subject in the absence of an agent.

Levin does not include any Load verbs in the Locatum Subject Alternation, but some of these verbs seem to have the alternative of the theme as subject:

(41) Books crammed the shelves.
(42) Cars jammed the highway.
(43) Bottles of preserves packed the pantry.

So these verbs belong to the Fill verb class as well as the Load class.

4.1.3.3 Summary

Although themes are more likely to be expressed as objects, there are themes which alternate as subjects and because subject is an argument, this is also evidence for the argument status of the themes which alternate as subjects. The with-phrases that alternate as subjects are those which occur with Swarm verbs and Fill verbs.

The Swarm verbs are unusual because despite being intransitive, either the theme or locative NP can be the subject. However, the thematic roles in the two variants are not the same. The theme as a subject is more like an agent or actor than a theme. This seems to indicate that the two variants are not thematically related as for other alternations, but are distinct verbs or expressions. Therefore while the theme may be an argument if it is a subject, this does not imply that it is an argument when it appears in the with-phrase. It may then be an adjunct, like an attributive PP.

The Fill verbs also have themes which alternate as subjects. Because Fill verbs focus on the state of the container/surface, the container/surface must remain in the object position. But, in the absence of the agent, the theme can become the subject and then is seen as the cause of the state described by the verb. The theme-subject and with variants are related expressions and this alternation provides evidence for the argument status of the theme with-phrase of the Fill verbs.

4.1.4 Motion Theme With-phrases that do not alternate

The above examples of complements of with that can appear as subjects or objects are restricted to certain verbs with specific semantic features. For example, Levin and Rappaport
believe that only verbs which have the semantic component of manner participate in the locative alternation (Rappaport and Levin, 1988:27 fn24). Other with-phrases do not display such alternations despite being semantically related to the alternating verbs and taking the same kind of arguments. Nevertheless, similar with-phrases that appear with non-alternating verbs may have the same argument status as those with the alternating verbs. The ability of some with-phrases to alternate provides evidence for the status of this kind of with-phrase as an argument, but the alternation is not considered a necessary condition for argument status. With-phrases that alternate may be more clearly syntactic arguments, but non-alternating with-phrases may also be syntactic arguments.

Some classes of non-alternating verbs are presented below.

4.1.4.1 Illustrate Verbs

The Illustrate verbs are semantically related to the Inscribe verbs in that they describe an act of image creation. The Illustrate verbs are address, adorn, autograph, brand, date, decorate, embellish, endorse, illuminate, illustrate, initial, label, letter, monogram, ornament and tag. As for the Inscribe verbs, I assume that the complement of with is a theme because it is placed in a certain location. Take the example of monogram, a verb very similar in meaning to engrave, in a sentence like (44):

(44) He monogrammed his handkerchiefs with his initials.
(45) *He monogrammed his initials on his handkerchiefs.

The verb monogram does not participate in the alternation illustrated in (14) and (15), but the event is of the same kind, and the participants are playing identical roles. Although the sentence is grammatically complete without the with-phrase, the entity expressed in the with-phrase is understood as being a necessary participant and therefore it is a semantic argument.

4.1.4.2 Equip Verbs

The Equip verbs are arm, burden, charge (with a task), compensate, equip, invest, ply, regale, reward saddle and task. Although these verbs refer to a transfer of possession, they do not participate in an object alternation:

(46) They equipped each officer with a mobile phone.
(47) *They equipped a mobile phone to each officer.

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7 Monogram is considered by some to be a Butter verb but Levin (1993:171) notes that the zero-related nominal is an ‘effected object’ or in other words a factitive like the theme of the Inscribe verbs.
The *Equip* verbs are near-synonyms of members of the *Present* verb class (§4.1.2.1), such as *provide, furnish* and *supply*. However, while the *with*-phrases of the *Present* verbs alternate as objects, the theme argument of *Equip* verbs cannot be realised as a direct object. However, this is the only way in which the two classes of verbs differ in syntactic expression; therefore the theme in this *with*-phrase may be equal in argument status to the themes of the *Present* verbs.

### 4.1.4.3 Swat Verbs

The *Swat* verbs consist of Levin’s classes of *Swat* verbs and *Spank* verbs (Levin, 1993: section 18.2 and 18.3). This class includes such verbs as *bite, punch, slug, stab, swipe, bludgeon, bonk, flog, knife, pummel*, and *whip*. A complete list is given in Appendix 1. They are semantically similar to the *Hit* verbs in that they involve movement of one entity into contact with another entity. However, *Swat* verbs do not participate in an alternation either with *against* or *through*:

(48) Ali clobbered the snake with a broom.

(49) *Ali clobbered a broom against/through the snake.

The theme is always realised as a *with*-phrase. The theme is optional, but it is implied. Some of these verbs always have an understood body part as the theme:

(50) The dog bit the man (with its sharp fangs).

Other examples are *claw, paw* and *punch*. The agent and patient are always compulsory.

Semantically, *clobber* would appear to be very similar in meaning to *hit*, but syntactically the occurrence of these two verbs is quite diverse. Whereas the *Hit* verbs appear in many other alternations like the Conative, *With/against*, and Instrument-subject alternations, the *Swat* verbs appear in only the Conative alternation. Therefore it cannot be assumed that the *with*-phrase with *Swat* verbs is an argument of similar standing to that of the *Hit* verbs. The tests for argumenthood below should demonstrate how the *with*-phrases with these two groups of verbs compare as semantic and syntactic arguments.

### 4.1.4.4 Pelt Verbs

*Pelt* verbs are verbs of throwing, but unlike *throw*, the missiles (which must be collective or mass) are expressed in a *with*-phrase, with no other alternative possible:

(51) The protesters pelted Don with mud.

(52) * The protesters pelted mud to/at Don.
There are only five verbs in this class: *buffet, bombard, pelt, shower*, and *stone*.

(53) Customers bombarded the agency with complaints.

It should be noted that *shower* is also a *Load* verb, and *bombard* is also a *Fill* verb, meaning that these verbs appear in other syntactic patterns related to the other verb classes. *Stone* has the theme expressed in the verb, so the *with*-phrase may be omitted. For this reason, *pelt* is the best example to use in applying the tests for argumenthood.

It is tempting to try to squeeze the *Pelt* verbs into another class of verbs (possibly *Swat* verbs), but the *Pelt* verbs are unique because the *with*-phrase is obligatory and has no alternate expression:

(54) *The protesters pelted Don.*

The fact that the *with*-phrases of *Pelt* verbs do not alternate as objects (or subjects) does not preclude them from being arguments. That they are obligatory qualifies them for argument status, and their immutability as *with*-phrases provides good evidence for considering other *with*-phrases as arguments too despite their PP status.

4.1.4.5 *Butter verbs*

Levin’s *Butter* verbs (Levin, 1993: §9.9) are semantically related to the *Fill* verbs. The *Butter* verbs include *carpet, cloak, fence, grease, label, oil, patch, roof, salt, shoe* and *water*. See Appendix 1 for the full list. Like the *Fill* verbs they refer to a change of location or putting, and like the *Fill* verbs they also denote a change of state in the object (the locative participant) which has a holistic interpretation (Levin, 1993:121). The main difference between the *Butter* verbs and the *Fill* verbs is that the latter participate in the Locatum Subject alternation, meaning that the NP in the *with*-phrase can appear as the subject.

The *Butter* verbs are verbs which have a zero related noun which names the theme of the action. For example, *butter* means to put butter on something, and the mention of the theme in a *with*-phrase is redundant. However, the theme can be expressed if it is somehow modified, or a different word than the verb itself:

(55) *Lora buttered the toast with butter.*

(56) *Lora buttered the toast with unsalted butter.* (Levin, 1993:120 =64)

(57) *Lora buttered the toast with margarine.*
It is true that the *Butter* verbs often do not have a *with*-phrase as the theme is incorporated into the verb:

(58) I wallpapered the room.

But if a theme is expressed overtly, it has no alternative expression than a *with*-phrase.

(59) *John buttered margarine on the bread.
(60) John buttered the bread with margarine.

Note that the restriction on cognate *with*-phrases applies to other verbs as well, including *Fill* verbs:

(61) *John plugged the sink with a plug
(62) *Jamie garnished the quiche with a garnish.

Levin’s Verbs of Colouring (Levin, 1993: §24), which I refer to as *Dye* verbs, can also be included under *Butter* verbs. They usually mean to put a layer of colour somewhere:

(63) John stained the bookshelf with a rimu-look stain.

Like the *Butter* verbs, the *Dye* verbs can take a cognate *with*-phrase if it is modified.

### 4.1.4.6 *Bulge* verbs

There are only three members in the *Bulge* verb class: *bulge, bristle* and *seethe*. They are related semantically to the *Swarm* verbs, but do not participate in the *Swarm* Alternation.

(64) The bag is bulging with groceries.
(65) *Groceries are bulging in the bag.

Since this is the only difference between the *Swarm* verbs and the *Bulge* verbs, and the *Swarm* alternation is not considered strong evidence for the argument status of its *with*-phrase (see §4.1.3.1), I will assume that the *with*-phrases of the *Bulge* verbs have the same argument status as those of the *Swarm* verbs.
4.1.4.7 Relationship to alternating verbs

The non-alternating verbs that I will be looking at are related to the alternating verbs as shown in Table 4.2.

<table>
<thead>
<tr>
<th>Alternating</th>
<th>Non-alternating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present verbs</td>
<td>Equip verbs</td>
</tr>
<tr>
<td>Load verbs</td>
<td></td>
</tr>
<tr>
<td>Hit verbs</td>
<td>Swat verbs</td>
</tr>
<tr>
<td>Inscribe verbs</td>
<td>Illustrate verbs</td>
</tr>
<tr>
<td>Fill verbs</td>
<td>Butter verbs</td>
</tr>
<tr>
<td>Mix verbs</td>
<td></td>
</tr>
<tr>
<td>Group verbs</td>
<td>Pelt verbs</td>
</tr>
<tr>
<td>Swarm verbs</td>
<td>Bulge verbs</td>
</tr>
</tbody>
</table>

Table 4.2 Verbs which take motion theme with-phrases

The list of verbs in the left-hand column all participate in an alternation where the object of with can alternate as a direct object or subject. The verb classes in the right-hand column do not show any alternation of the with-phrase, that is, the theme is always expressed as a with-phrase, if it is expressed.

4.1.5 Conclusion

This section has discussed with-phrases which have the potential to alternate as subjects and objects, and with-phrases of semantically related verbs which do not alternate. A large number of themes that appear in with-phrases with different semantic and syntactic patterns are able to take the place of subjects and objects of the verb and it seems reasonable to assume that if a core argument of a verb can alternatively appear in a with-phrase with the same verb, then that argument maintains a close syntactic relationship with the verb, despite its realisation as a PP. Nevertheless, these alternations are only one piece of evidence for the argument status of the with-phrase. There are several syntactic and semantic tests for argumenthood which can be applied to these with-phrases.
4.2 Tests of Argumenthood

The *with*-phrases that appear with the verb classes listed above can be tested for argumenthood either by use of syntactic or semantic criteria. The *with*-phrase may be a syntactic argument, a semantic argument or both and in the literature, many tests of argumenthood are put forth (Bresnan, 1982a; Dowty, 1982; Gazdar et al., 1985; Pollard and Sag, 1987). But the situation is unsatisfactory: when applied to *with*-phrases, the results are ambiguous. As yet, no one test for argumenthood has shown itself to be definitive (Pinker, 1989:40). Yet although the tests cannot ascertain argument status, they can indicate which PPs are more argumentlike.

In Section 4.2.1 various tests which have been used to identify syntactic arguments or adjuncts are introduced. Section 4.2.2 discusses two tests for semantic argumenthood. Then each verb class is tested for its status as a syntactic and semantic argument in Section 4.3.

4.2.1 Syntactic Tests

Syntactic tests involve manipulating the surface expression of the clause in order to observe the behaviour of the *with*-phrase, the status of which is determined by whether the sentence remains grammatical and preserves meaning after manipulation, or is rendered ungrammatical or the meaning is changed. Some of the tests provide evidence that the *with*-phrase is either an argument or not an argument, and other tests provide evidence that a constituent is an adjunct or not an adjunct. But there is no one test that can divide the field of *with*-phrases cleanly into arguments and adjuncts with no exceptions.

4.2.1.1 The Iterability Test

One example of a test that is supposed to identify adjuncts is the test of iterability (Pollard and Sag, 1987:136). In this test, if two or more PPs (or other adverbials) occurring with one verb have the same informational function, then they are adjuncts. Temporal PPs are a clear example because two or more temporal phrases can appear with the same verb:

(66) John met Bill at six o’clock on Monday.

Both PPs are temporal phrases and by this test they are adjuncts.

However, if two PPs with the same thematic role cannot appear in the same clause this does not mean that they are not adjuncts. In this case, they may or they may not be adjuncts.

(67) *John met Bill on Monday on Tuesday.
The phrase on Monday is an adjunct in (67) as it is in (66) and the reason why these two adjuncts cannot occur in the same clause is because they occupy the same interpretive niche (Grimshaw, 1990:148). On Monday and on Tuesday are mutually exclusive.

The iterability test is really only applicable for locative and temporal phrases. Because these have different scopes, multiple temporal and locative phrases can be nested. Ernst (2002:135) states that only adjuncts which can be nested can be iterated. For example, a series of temporal phrases in a clause can refer to an hour, a day, a week etc. and all be compatible with each other. Despite the multiple expressions, only one time or place is being referred to.

(68) John met Bill at 4 o’clock on Friday last week.

It seems that by this test, no with-phrase is an adjunct, because no with-phrase can be iterated with the same thematic relation:

(69) *Kim decorated the room with streamers with balloons.
(70) *Kim rewarded the children with sweets with money.
(71) *Kim built the house with planks with plaster.
(72) *Kim went to the concert with John with Mary.

All the verb classes discussed here would have the same result for the iterability test, and that is that the with-phrase cannot be iterated. These with--phrases cannot be iterated because they are introducing the same kind of information. Iterability does not provide any information about the argument or adjunct status of with-phrases. Therefore this test has been excluded.

4.2.1.2 The ‘Do So’ Test

Another test for argumenthood is the ‘do so’ test (Pollard and Sag, 1987). The phrase do so can be used in a clause as an anaphoric expression for the VP in the preceding clause, including the verb and all its internal arguments. If the PP is also included in the do so phrase, and therefore a similar PP cannot be added after do so, then it is an argument.

(73) *John put his hat on the chair, and Bill did so on the desk.

Because another locative phrase cannot be attached after do so, that means the locative phrase in (73) is an argument of the verb.

If the verb and its arguments replaced by do so do not include the PP, then a similar PP can be added to the second clause, and this PP is an adjunct:
(74) John parked his car in the garage and Bill did so on the street.

This can be paraphrased as:

(75) John parked his car in the garage and Bill parked his car on the street.

Both locative PPs are adjuncts.

4.2.1.3 Omissibility

Another test for syntactic arguments is omissibility. If a PP cannot be omitted from a clause without loss of grammaticality, then it is an argument:

(76) John put his hat *(on the chair).

The fact that the locative phrase cannot be omitted means that it must be an argument of the verb. It should be noted that it is quite rare for a PP to have this property.

This would seem to be the most robust test for syntactic argumenthood. There is no doubt that a constituent which is not omissible must be a syntactic argument. However, there are also optional arguments. For example, an NP referring to the thing eaten is optional with the verb eat but it is an argument by all other syntactic and semantic tests.

4.2.1.4 Free preposition

Syntactic arguments must be licensed by a verb, and it often happens that the verb also specifies a preposition for that argument.

(77) It consists of eggs and milk.

The verb consist in (77) subcategorises for an argument and specifies the preposition of to precede that argument.

If the preposition is idiosyncratically selected by the verb, then the PP is semantically obligatory and therefore an argument (Wechsler, 1991:123). On the other hand, a PP is likely to be an adjunct if its choice of preposition is free. This means the preposition has some semantic content and it is not uniquely selected by the verb.

Locative and temporal PPs can select from a variety of prepositions:

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8 Some suggest that there are two lexical verbs eat, one transitive and one intransitive (Pollard and Sag, 1987). See §3.2.2.1
They went to the park on Friday/ at 8pm/ in the morning.
The children played happily in the garden/ beside the pool/ under the trees.

This suggests that these are adjuncts.

If the preposition is selected by the verb and cannot be replaced by another preposition, the object of the preposition is an argument:

Bill depends on daily insulin injections.

One possible exception is the locative phrase with put verbs which can be represented by a variety of prepositions although it is usually considered an argument:

Bill put the book on the table/ under the envelope/ beside the computer.

However, put does select a restricted kind of non-directional locative preposition.

With in any of its semantic roles cannot easily be replaced by another preposition. Unlike location and time PPs, instruments, themes and manner cannot be expressed by a variety of prepositions. The only reasonable substitute for with is its converse without. Substitution of without is possible for accompaniment and manner with-phrases and this suggests adjunct status:

They went to the cinema with/ without John.
Pat sang the aria with/ without emotion.

A test can be performed by substituting the preposition without for with. Because the meanings of with and without are similar (but converse), a lack of substitution points to semantic bleaching of the preposition for the motion theme with-phrases. That is, the preposition is a case marker rather than a semantically contentful preposition. Therefore, if without cannot be substituted, the complement of with is probably an argument.

The use of without is subject to a pragmatic constraint, that only themes which are normally related to the action described by the verb can follow without, whereas with can be followed by any NP because with asserts the existence of the theme. The only occasion when a sentence with without could be felicitous is if the theme were normally required to perform the action, that is, it is a semantic argument. Based on world knowledge, hitting a tennis ball normally requires a racquet, therefore (84) is marginally acceptable, while (85) is incoherent:

John hit the tennis ball without a racquet.
John hit the tennis ball without a hammer.
Without denies the existence or relation of its object, which is infelicitous unless the theme is something which is expected to be related to or participating in the event described. If a particular theme is expected, the use of without is possible to invalidate that assumption.

4.2.1.5 Summary

The three syntactic tests detailed above (excluding the iterability test) may help to identify a with-phrase as a syntactic adjunct or argument. Some of the tests will be easier to apply than others and they will vary in their accuracy, some giving more accurate assessments than others. A combination of these tests will give a better indication of the status of the with-phrase with the different verb classes.

As remarked above, argumenthood may be determined on a syntactic or a semantic basis. While the syntactic tests described in this section may be viewed as more concrete proof that some with-phrases are arguments, the importance of semantic criteria cannot be ignored. In the next section two tests for semantic argumenthood are introduced.

4.2.2 Semantic Tests

A semantic argument is one whose role is essential to the meaning of the verb (Schlesinger, 1995:42). Syntactically obligatory arguments must be semantic arguments too, unless the argument in question has no semantic content, such as an expletive or a fake reflexive, for example.

4.2.2.1 Entailment

Semantic tests for argumenthood include entailment. Entailment means that an entity is conceptually necessary. For example, John complained entails that John complained to somebody about something (Wechsler, 1991:119). This somebody and something are ‘optional complements’. Pollard and Sag (1987:132) describe these roles as ‘ontologically necessary’: that is, the situation described by the verb must involve a participant with the role in question. They are semantically necessary but syntactically optional.

Pollard and Sag (1987) distinguish this semantic criterion from the grammatical notion of polyvalency. This refers to two homophonous lexical items which have different valency – one may be transitive and the other intransitive. For example, the verb open has a transitive form, as in Jill opened the door, and an intransitive form, as in The door opened. These are two different events with different participants. An agent (opener) is not necessary to the opening event.

Some complements are not merely optional, but actually better left unexpressed. An event of buttering as in John buttered the bread entails the use of butter (or something like it). The thing which is spread is a semantic argument but it is not expressed due to semantic redundancy.
*With*-phrases which are syntactic adjuncts, like accompaniment and manner, are evidently not necessary to the meaning of the verb. Hence they are not semantic arguments either.

Because themes come in so many flavours, whether they are entailed or not depends on the verb and the theme in question. Themes, therefore, may or may not be ontologically necessary. There are some verbs whose semantics entail a theme, so these themes will be semantic arguments. For example, verbs of motion entail something that moves, that is, a motion theme. By extension, verbs of transfer of possession also entail something transferred and this is also a theme. Most of the verbs analysed in this chapter involve physical or metaphorical movement and therefore they could be said to require a motion theme. The remaining verb classes, the *Swarm* and *Fill* verbs, require location themes in the *with*-variant, because the meaning of the verbs cannot be satisfied with only a location argument:

(86) The deck buzzed *(with flies)*.

However, because almost all themes described in this chapter are conceptually necessary, this test is not very useful in discriminating between the verb classes and therefore it has been omitted from the results.

### 4.2.2.2 Semantic content

A second semantic test is the semantic content of the preposition (Pollard and Sag, 1987:136). If the preposition has a constant meaning in a variety of clauses it is more likely to mark an adjunct. One example is the locative preposition *around*. Whenever this preposition is used it means ‘encircling’ or ‘on all sides’ and it contributes this meaning to the sentence. This contrasts with the preposition *to* with *give* which does not contribute meaning to the clause:

(87) John gave the cake to Bill.

Gazdar et al (1985:132) refer to these as *case-marking prepositions* and characterise the preposition as ‘semantically vacuous’. That is, the PP and its object NP have exactly the same meaning. They give this example of a semantically vacuous preposition *with* (Gazdar et al., 1985:132):

(88) We should have credited him *with* a little more intelligence. (=107)

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9 As the head of a transitive PP rather than as a particle
10 The preposition is assumed not to contribute meaning because it is omissible in the double object variant.
‘*To* is completely predictable from the verb.’ ‘Recipient is an essential theta-role in the meaning of the verb.’ (Jackendoff, 1990b:446)
Other examples of case-marking prepositions include the passive by and the preposition in rely on.

With seems to have the meanings of ‘accompaniment’ and ‘means’. When it bears one of these meanings, it is likely to be an adjunct. However, over the wide range of possible uses of with, the semantic contribution of the preposition is certainly not constant, and especially in the case of motion themes it seems to have no semantic content at all. This test would suggest that motion theme with-phrases are arguments and accompaniment and instrument with-phrases are adjuncts.

It may be argued that ‘themehood’ is the semantic content of the preposition with but to accept this would lead to the conclusion that the preposition to in (87) also has semantic content, presumably ‘goalhood’ or ‘recipienthood’. In most theories of syntax, this is not the case: the NP after to is an argument and the preposition is assumed to be a case marker. According to Pinker (1989: 200), the traditional view is that there are two functions of prepositions: first as ‘semantically contentful locative functions’ and second as ‘grammatical markers that identify their objects as bearing some semantic role with respect to the verb’. If we accept these two descriptions, the preposition whose only semantic content is to identify the semantic role of the NP is in fact a grammatical marker. It may seem strange that identifying the semantic role is labelled ‘grammatical’, but the semantic role is relevant on the surface only in the morphology of case-marking. Therefore, indicating themehood is part of syntax – it is not semantic content in the sense used here.

This test gives similar results to the preposition substitution test (§ 4.2.1.4), although the tests differ in that preposition substitution may result in an ungrammatical sentence, (it is a syntactic test), and this test only reflects the semantic content of the preposition. Since the results are the same, that is, the verb either does or does not select with, these two tests are treated as one, to be called selected preposition.

4.2.3 Summary

Several tests have been suggested as tests that distinguish syntactic arguments from adjuncts. None of these tests is perfect, and some are more reliable when applied to with-phrases than others. This being the case, a combination of these tests should give a reasonable indication as to which motion theme with-phrases are syntactic arguments and which are adjuncts. It may be that a third category, such as argument-adjunct, is necessary to cater for those with-phrases which have both argument and adjunct properties.

The with-phrase due to its syntactic structure as a PP may be seen as an unlikely candidate for argumenthood. It is for this reason that semantic tests are important to determine whether a

11 The same conclusion is reached by different means in 2.3.4.
*with*-phrase might be considered an argument on semantic grounds. However, the entailment test is not useful here. Most of the motion and location themes appear to be semantically entailed; therefore this part of the evidence is not discussed further. That leaves the selected preposition test, which is both a syntactic and a semantic test.

### 4.3 Applying the tests

In this section the tests for argumenthood are applied to the *with*-phrases of each class of verbs in turn. While most of the judgements of the data are my own, a survey was conducted among native speakers for the ‘*do so*’ test because such sentences are difficult to judge.

For any test, the results may or may not provide evidence that the *with*-phrase is an argument or an adjunct. Where a test does not produce clear results, this may indicate that the *with*-phrase in question is of an intermediate status between that of argument and adjunct.

#### 4.3.1 Present Verbs

##### 4.3.1.1 Do so

The ‘*do so*’ test indicates that the *with*-phrase of Present verbs is an argument:

(89)  *The Prime Minister presented John with a medal and the Mayor did so with a key to the city.

Because the *with*-phrase cannot be attached after *do so*, that means it is an argument of the verb.

##### 4.3.1.2 Omissibility

The *with*-phrase is not omissible with Present verbs:

(90)  * The Prime Minister presented John.

(91)  * The hotel provided the guests.

Because these *with*-phrases are essential to the grammaticality of the sentence, they are syntactic arguments, not adjuncts.

##### 4.3.1.3 Selected preposition

With Present verbs, the preposition *with* seems to have no semantic content, implying argument status.

Substitution of *without* is not possible for the *with*-phrase of Present verbs:

(92)  *The mayor presented Bill without a medal.

(93)  *The hotel provided the guests without bathrobes.

This test indicates that these *with*-phrases are semantic arguments.
4.3.1.4 Summary

By all the tests above, the with-phrase with Present verbs is an argument. Despite its syntactic expression as a PP, this with-phrase is clearly a syntactic and semantic argument of the verb.

4.3.2 Load Verbs

4.3.2.1 Do so

Judgements about Load verbs are difficult:

(94) % John brushed the pastry with butter and Bill did so with margarine.12
(95) ? John crammed the jar with biscuits and Bill did so with sweets.
(96) ? John strewed the room with dirty socks and Bill did so with pizza boxes.

A possible source of oddity for these sentences is that the object of the with-variant is affected, even changed, by the event, so a repetition as in ‘do so’ may be impossible. For example, if the jar is crammed with biscuits, nothing more can be crammed into it. However, even if the objects of the two clauses are made distinct, for example by using a possessive pronoun, the sentence is still not acceptable:

(97) ? John stacked his shelves with books, and Bill did so with lecture notes.

This test suggests that the with-phrase of the Load verbs may be an argument.

4.3.2.2 Omissibility

The with-phrase is sometimes optional with these verbs, if the theme can be understood from the context (Goldberg, 1995:178). This indicates that it may not be an argument:

(98) Bill loaded the truck.

However, not all the Load verbs are equally acceptable without the with-phrase:

(99) * Jill crammed the drawer.
(100) * John scattered the lawn.

The locative argument can also be omitted:

(101) John scattered the seeds.

This test is not very indicative for the Load verb class as a whole. The with-phrase may have an intermediate status, between an argument and an adjunct.

4.3.2.3 Selected preposition

With Load verbs, the preposition with seems to have no semantic content.

12 The symbol ‘%’ indicates that native speaker judgements are polarised with some speakers judging the sentence acceptable and others rejecting it.
Substitution of *without* is not possible for the *with*-phrase:

(102) * Bill loaded the truck without boxes.
(103) * John stuffed the drawer without socks.

This test indicates that these *with*-phrases are probably semantic arguments.

### 4.3.2.4 Summary

The *with*-phrase with *Load* verbs appears to be a semantic argument by the selected preposition test, but the syntactic tests are inconclusive. There was considerable variation in informant responses for the syntactic tests. It is difficult to say whether the *with*-phrases of *Load* verbs are syntactic arguments or adjuncts; they may belong to an intermediate category, the ‘argument-adjuncts’.

### 4.3.3 Hit Verbs

#### 4.3.3.1 Do so

The ‘*do so*’ test indicates that the *with*-phrase of *Hit* verbs is an adjunct:

(104) Bill hit the snake with a stick and John did so with a broom.

The theme is not included in the ‘*do so*’ phrase, and therefore the *with*-phrase is an adjunct.

#### 4.3.3.2 Omissibility

The *with*-phrase can be omitted with *Hit* verbs, indicating a non-argument:

(105) Bill hit the snake.
(106) John tapped the counter.

The locative, in contrast, is an argument and therefore cannot be omitted:

(107) *Bill hit the truncheon. (on a reading where *truncheon* is the weapon used)*

#### 4.3.3.3 Selected preposition

With *Hit* verbs, the preposition *with* seems to have the meaning ‘using’ just like an instrument. So the *with*-phrases of the *Hit* verbs may be semantically more like adjuncts because they have this independent semantic content.

*Hit* verbs normally cannot be used with *without*:

(108) *Bill pounded the wall without a hammer.
(109) *John hit the tennis ball without a hammer.
(110) *John hit the tennis ball without a racquet.

The exception is where the theme is normally required to perform the action, as in (110).
4.3.3.4 Summary

Only one test suggests that the *with*-phrase of *Hit* verbs might be an argument: the selected preposition test, but this test does not really provide strong evidence because even though the preposition seems to have semantic content, it cannot be substituted. The theme often bears the thematic role of instrument as well as theme, and this could lead to the conclusion that the preposition *with* refers to an instrumental adjunct. On balance, the *with*-phrase is most likely to be an adjunct.

4.3.4 *Inscribe* Verbs

4.3.4.1 *Do so*

Native speakers disagree as to whether *‘do so’* includes the *with*-phrase or not:

(111) *‘Kitty embroidered her handkerchief with flowers and Lydia did so with butterflies.*

This test does not clearly indicate whether the *with*-phrase of *Inscribe* verbs is an argument or adjunct. The *with*-phrase may have an intermediate status, between an argument and an adjunct.

4.3.4.2 Omissibility

The *with*-phrase is often omissible, indicating a non-argument. The agent and the location are the essential arguments.

(112) She engraved the trophy.

However some verbs (*imprint, incise*) require the theme argument:

(113) He incised the vase *(with stylised scrolls).*

The locative is not omissible, as with the *Hit* verbs (see § 4.3.3.2):

(114) * She engraved her name.

4.3.4.3 Selected preposition

For *Inscribe* verbs, the sentences with *without* are marginally grammatical, which could mean these *with*-phrases are adjuncts:

(115) * Kitty embroidered her handkerchief without flowers.

(116) * She engraved the trophy without the winner’s name.

But the meanings of the sentences using *without* seem not to be directly related to the corresponding sentences with *with*. They are not clearly opposite like these Accompaniment phrases:

(117) John went to the movies with Bill.

(118) John went to the movies without Bill.
In (118), an accompanying person is not entailed, that is, John may have gone alone, but in (115) and (116) something must have been embroidered or engraved. Sentence (115) may be paraphrased as:

(119) Kitty embroidered her handkerchief with images which did not include flowers.

But (118) may not be paraphrased as:

(120) * John went to the movies with someone but not Bill.

The Inscribe verbs strongly imply a theme, and the use of without cannot annul the expectation of a theme. Therefore, the theme is a semantic argument.

With Inscribe verbs, the preposition with seems to have no semantic content. This implies that the with-phrase is a semantic argument.

4.3.4.4 Summary

The syntactic tests identify the with-phrases of Inscribe verbs as adjuncts, but the selected preposition test indicates argument status. These with-phrases may be semantic but not syntactic arguments.

4.3.5 Mix Verbs

4.3.5.1 Do so

The motion theme with-phrases of Mix verbs seem to be arguments by this test:

(121) * Bill mixed the red paint with the blue paint and John did so with the yellow paint.

(122) * Bill combined the soil with the fertiliser and John did so with the compost.

(≠ John combined the soil with the compost.)

Both the object theme (the soil in (122)) and the with-phrase theme (the fertiliser) are included in the do so phrase, therefore both are arguments.

4.3.5.2 Omissibility

The with-phrase can be omitted only if the theme is plural:

(123) Bill mixed the paints.

(124) Bill intertwined the ropes.

Sentence (124) means that Bill intertwined one (or more) rope(s) with another rope (or other ropes), but syntactically only one NP is required by the verb. The theme must be semantically plural, either as a plural object, or an object and a with-phrase.
4.3.5.3 Selected preposition

The preposition *with* used with the *Mix* verbs does not seem to contribute any semantic content. A possible interpretation is the role of accompaniment, but this meaning is not as strong as for the *Group* verbs (see § 4.3.6.3) because the *Mix* verbs already lexicalise the meaning of ‘combining’.

The preposition *into* can also be used with some of the *Mix* verbs.

(125) Bill blended the cream into the eggs.
(126) Bill integrated the cash register network into the computer network.

The preposition *to* can be used with *conjoin* and a few other verbs (*correlate, interconnect, interlink*).

(127) Bill conjoined the transistor to the capacitor.

This test may indicate that these *with*-phrases are adjuncts.

4.3.5.4 Summary

Most of the tests indicate that the *with*-phrases with *Mix* verbs are probably arguments. However, the fact that plural objects can be used to satisfy the subcategorisation of the verb means that the *with*-phrase is always optional and therefore it is not clear whether these *with*-phrases are syntactic arguments. There is also the fact that *into or to* can be used instead of *with* with some of these verbs. These two features make the *with*-phrases of the *Mix* verbs very difficult to classify as arguments or adjuncts. The *Mix* verbs and *Group* verbs differ from all the other classes because the *with*-phrase does not add a new thematic role to the clause, but instead identifies a second theme.

4.3.6 Group Verbs

4.3.6.1 Do so

The *with*-phrases of *Group* verbs seem to be arguments by this test:

(128) * Bill packaged the towels with the soap and Mary did so with the shampoo.
(129) * Bill grouped the sheep with the goats and John did so with the deer.

(≠ John grouped the sheep with the deer.)

4.3.6.2 Omissibility

The *with*-phrase can be omitted only if the theme is plural:

(130) Bill collated the documents.
(131) Bill bundled the letters.
A *with*-phrase is not syntactically necessary, so it may be considered an adjunct. However, the object cannot appear alone if it is singular:

(132) Bill bundled the letter *(with the others).

When the direct object is singular, a *with*-phrase is necessary to complete the sense of the verb.

### 4.3.6.3 Selected preposition

Some of the *Group* verbs can also be used with *into*. These verbs generally refer to food preparation:

(133) Bill beat/whipped/whisked the sugar *into* the cream.

The variant with *into* has a slightly different meaning than the *with* variant. It implies the sugar was added later. This difference in meaning implies adjunct status for the PP.

The *Group* verbs differ from the *Mix* verbs in that the *Group* verbs incorporate a manner component but not a result component, while the *Mix* verbs lexicalise result but not manner. The *Mix* verbs imply that the themes are combined, but the *Group* verbs do not have this implication. This explains why the resultative *together* is obligatory to show the combination of conjoined objects of *Group* verbs as in (134), but not obligatory for *Mix* verbs.

(134) The farmer herded the sheep and the goats *together*.

In the *with* variant, presumably the preposition *with* must contain this semantic component, since *together* cannot be used in the *with* variant:

(135) The farmer herded the sheep *with* the goats (*together)*\(^\text{13}\).

Because the preposition *with* takes the place of the modifier *together*, *with* implies the meaning of ‘accompaniment’ with this class of verbs. The semantic content of the preposition implies that the *with*-phrase is not a semantic argument.

### 4.3.6.4 Summary

While the ‘*do so*’ test indicates that the *with*-phrases with *Group* verbs are probably arguments, the other two tests lean more towards adjunct status. The results are very similar to the *Mix* verbs (see discussion in § 4.3.5.4) and both these verb classes have mixed results from the tests. However, the preposition seems to have more semantic content with the *Group* verbs

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13 *Together* may be inserted before the *with*-phrase, but its meaning is not resultative. *Together with* is an emphatic form of *with* in the sense of ‘accompaniment’.
than with the *Mix* verbs, implying that the *with*-phrases of the *Group* verbs are less argument-like.

### 4.3.7 *Swarm Verbs*

#### 4.3.7.1 *Do so*

The ‘*do so*’ test is unworkable for *Swarm* verbs:

(136) * The garden swarmed with bees and the deck did so with flies.

This is probably because the subject is not an agent, therefore the very phrase *do so* is incongruous with these subjects. The sentence is anomalous even without the second *with*-phrase:

(137) * My garden swarmed with bees on Thursday and their garden did so on Friday.

#### 4.3.7.2 *Omissibility*

The *with*-phrases are obligatory with most of the *Swarm* verbs:

(138) The floor crawled *(with cockroaches).*

This implies that the theme is an argument. However, there are a few verbs of light, sound or substance emission which, with an appropriate subject, may omit the *with*-phrase:

(139) The tiara sparkled.
(140) The tiara sparkled with diamonds.

However, (139) is not equivalent to (140). Sentence (139) asserts the source of light as being the tiara, whereas (140) identifies the source of light as the diamonds. The omission of the *with*-phrase invalidates the existence of any source other than the subject, and implies that the subject is the source of light (or sound, substance). Therefore, all themes in the *Swarm* alternation must be syntactically expressed in order to obtain the required reading.

#### 4.3.7.3 *Selected preposition*

The preposition *with* cannot be substituted by any other preposition:

(141) * The pond teemed without fish.
(142) * The cave echoed without screams.

Again, argument status is indicated by this test. With *Swarm* verbs, the preposition *with* seems to have no semantic content. Therefore it is probably a semantic argument.

#### 4.3.7.4 *Summary*

The *with*-phrase with *Swarm* verbs seems to be an argument by all the applicable tests. The ‘*do so*’ test does not provide any information for this verb class. However, the omissibility test demonstrates that the theme is clearly a syntactic argument. The selected preposition test also
gives positive results. The theme of the Swarm verbs is a syntactic argument as well as a semantic argument.

4.3.8 Fill Verbs

4.3.8.1 Do so

Judgements about Fill verbs are difficult:
(143) ? John decorated the cake with almonds and Bill did so with cherries.
(144) ? John filled the tank with petrol, and Bill did so with diesel.
(145) ? John covered the ground with a tarpaulin and Bill did so with a blanket.

The Fill verbs have the same problem as the Load verbs in that they often result in a change of state for the object. Although this concern can be avoided by using personal pronouns, the sentence remains unacceptable for some speakers:
(146) ? John covered his bike with a tarpaulin and Bill did so with a blanket.

Therefore this test suggests that the with-phrases of Fill verbs are probably arguments.

4.3.8.2 Omissibility

Most with-phrases are optional with the Fill verbs:
(147) John decorated the room (with balloons).

However, sometimes there is the danger of ambiguity if the theme is omitted. The subject might be construed as the unaccusative theme:
(148) Guests inundated the hotel (with compliments).

The theme argument is obligatory but may be expressed as the subject, therefore the with-phrase is not syntactically necessary.

4.3.8.3 Selected preposition

A few of the Fill verbs involving clothes or cloth can substitute in for with (Levin, 1993:120):
(149) Leigh swaddled the baby in blankets. (= 62a)

Another very common verb which often takes the preposition in is cover:
(150) Tom covered the strawberries in chocolate.

Substitution of without for with produces the same kind of effect as for the Inscribe verbs:
(151) ? John decorated the cake without almonds.

Like the Inscribe verbs, the meaning of the sentences using without seem not to be directly opposed to the corresponding sentences with with (see §4.3.4.3). There is an unsystematic change in meaning.

With Fill verbs, the preposition with seems to have no semantic content.
The evidence here is mixed. The with-phrases of some verbs may be adjuncts while others take with-phrase arguments.

4.3.8.4 Summary

Although the with-phrase with most Fill verbs is optional, it seems to be an argument by the ‘do so’ test. The conflicting results of these two tests suggest that the with-phrases of the Fill verbs may have an intermediate status between argument and adjunct. The with-phrase is certainly a semantic argument for all the Fill verbs, but may not be a syntactic argument for some verbs, such as cover and swaddle.

4.3.9 Illustrate Verbs

4.3.9.1 Do so

The with-phrase can be attached after do so, indicating that it is an adjunct:

(152) Jane illustrated her project with graphs and Janet did so with tree diagrams.

(153) Harry monogrammed his stationery with three initials and Henry did so with two.

4.3.9.2 Omissibility

Many of these verbs have a zero-related noun for the image (e.g. monogram, address) (Levin, 1993:171). Some have other related nominals indicating the result (e.g. decoration, illustration). This means that the image argument is already understood without the addition of a PP. Thus the image is optional for all verbs in this class.

(154) John illustrated the books.

(155) Leonardo autographed every print.

It is understood that illustrations and autographs respectively were applied.

4.3.9.3 Selected preposition

The use of without has the same effect as for the Inscribe verbs. (See § 4.3.4.3.) The acceptability of the sentence depends on the verb and the theme selected:

(156) ? John illustrated the books without line drawings.

(157) ? Bill labelled the keys without his name and address.

As with the Inscribe verbs, the substitution of without may indicate that these with-phrases are adjuncts. However, the meaning of these sentences still implies a theme of some sort.

The Illustrate verbs, like the Inscribe verbs, do not take with for any particular semantic content. This implies that the with-phrase may be an argument.
4.3.9.4 Summary

The evidence for the argument status of the *with*-phrase with *Illustrate* verbs is mixed, both for the syntactic tests and the semantic tests. However, the *with*-phrase of the *Illustrate* verbs is more likely to be an adjunct than that of the *Inscribe* verbs. This is because the *Inscribe* verbs are more concerned with manner, and so require an image argument, whereas the *Illustrate* verbs already contain the result (image) component in the semantics of the verb. Of course, the fact that the *Inscribe* verbs participate in an object alternation while the *Illustrate* verbs do not provides further evidence that the *with*-phrases of *Illustrate* verbs are less argumentlike than those of the *Inscribe* verbs.

4.3.10 *Equip* Verbs

4.3.10.1 *Do so*

Native speakers have conflicting opinions as to whether *do so* includes the *with*-phrase or not:

(158) ? Adidas equipped the All Blacks with shirts and Reebok did so with boots.

Curiously, *reward* seems to be more acceptable than *equip* with a *do so* phrase followed by a *with*-phrase, indicating that the *with*-phrase with *reward* may be more adjunctlike than that with *equip*:

(159) (?)Bill rewarded the children with sweets and Ben did so with cans of Coke.

This test does not give a clear indication of the status of the *with*-phrase. These *with*-phrases may have both argument and adjunct properties.

4.3.10.2 Omissibility

Most members of this class require the *with*-phrase but *reward, compensate, arm* and *equip* are marginally acceptable without it:

(160) John rewarded his dog.
(161) The company compensated the victims.

Either the nature of the transfer is implied by the verb (for example, compensation is usually financial) or there may actually be nothing transferred (for example if John rewarded his dog by patting it on the head) (Pinker, 1989:217).

For the remaining verbs in this class, the *with*-phrase is not omissible:

(162) John plied his new friend *(with drinks).*
4.3.10.3 Selected preposition

The preposition *with* seems to be specified by the verb here and cannot be substituted by another preposition.

(163) * The army equipped the soldiers without guns.

(164) * The Queen invested Bill without the Victoria Cross.

With the *Equip* verbs, the preposition *with* seems to have no semantic content. This implies that it may be an argument.

4.3.10.4 Summary

Most of the tests suggest that the *with*-phrase of *Equip* verbs is an argument. While the *with*-theme is not always required syntactically, it is a semantic argument. The uncertainty surrounding the *do so* test may indicate that these *with*-phrases are of intermediate status between arguments and adjuncts.

4.3.11 Swat Verbs

4.3.11.1 Do so

The *do so* test indicates that the *with*-phrase of *Swat* verbs is an adjunct:

(165) Bill bludgeoned a snake with a pipe and John did so with a brick.

(166) Bill shot a rabbit with a rifle and John did so with a pistol.

There is no restriction against adding a *with*-phrase after *do so*.

4.3.11.2 Omissibility

The *with*-phrase can be omitted with *Swat* verbs, indicating a non-argument:

(167) Bill shot the sheriff.

(168) The teacher strapped the pupil.

The theme of some *Swat* verbs may be a noun which is zero-related to the verb:

(169) ? John whipped the horse with a whip.

In such cases, the theme is normally unexpressed because it is incorporated into the verb.

Cognate *with*-phrases are seldom expressed, as with the *Butter* verbs (see § 4.1.4.5).

4.3.11.3 Selected preposition

Most *Swat* verbs cannot be used with *without*, indicating that the *with*-phrase may be an argument.

(170) *Bill swatted the fly without a teatowel.

(171) John shot the deer without a rifle.
Sentence (171) implies that a rifle is the normal weapon for shooting deer, and may be acceptable if this is true. On the other hand, sentence (172) is semantically anomalous, because the act of shooting necessitates the use of some kind of firearm:

(172) # John shot the deer without a firearm.

Assuming that most of these verbs do not require a particular entity as the theme, the use of without should be infelicitous in most instances. This would imply that the theme is an argument.

With Swat verbs, the preposition with may have the semantic content of an instrument. The with-phrases of the Swat verbs may be semantically more like adjuncts because they have this independent semantic content. On the other hand, a true instrument should be able to participate in the Instrument Subject alternation (see § 3.3.4). The themes of Hit verbs show this alternation, but the themes of Swat verbs do not.

4.3.11.4 Summary

As with the Hit verbs, only the selected preposition test indicates that the theme of the Swat verbs is an argument. However, this test does not really provide strong evidence, so the with-phrase is most likely to be an adjunct. Since the Swat verbs do not participate in any object or subject alternations they are less likely to be arguments than the Hit verbs.

4.3.12 Pelt Verbs

4.3.12.1 Do so

A second with-phrase cannot be added after ‘do so’ with the Pelt verbs:

(173) * Bill pelted the rock star with eggs and John did so with tomatoes.
(174) * Bill showered the bride and groom with confetti and John did so with rice.

This test indicates that the with-phrase is an argument.

4.3.12.2 Omissibility

The with-phrase cannot be omitted with Pelt verbs, indicating that this with-phrase is a syntactic argument:

(175) *Bill pelted the rock star.
(176) *The guests showered the bride and groom.

This is one of the few theme with-phrases (along with those of the Present and Swarm verbs) that is obligatory.

4.3.12.3 Selected preposition

Pelt verbs cannot be used with without, indicating that the with-phrase may be an argument.

(177) * Bill pelted the rock star without eggs.
This sentence is meaningless; it is not even marginally acceptable.

Unlike _Hit_ and _Swat_ verbs, the theme with _Pelt_ verbs cannot be construed as an instrument. Therefore, _with_ does not have any semantic content, making this _with_-phrase an argument.

### 4.3.12.4 Summary

The theme of the _Pelt_ verbs seems to be an argument by all the tests listed above. Unlike the _Swat_ verbs and _Hit_ verbs to which it is semantically related, the theme of the _Pelt_ verbs is obligatory making it a syntactic argument, and it is also a semantic argument. Despite the high status of this _with_-phrase as an argument, it does not participate in any alternations with the subject or object.

### 4.3.13 Butter Verbs

#### 4.3.13.1 Do so

The ‘_do so_’ test is sometimes difficult to apply with the _Butter_ verbs because these verbs can only take a limited number of themes, that is, things which are similar to the thing named by the verb itself. However the zero related noun can be modified to produce an acceptable sentence:

(178) John framed his degree with a silver frame and Bill did so with a wooden frame.

This implies that the _with_-phrase is an adjunct.

#### 4.3.13.2 Omissibility

The _with_-phrase is always optional with the _Butter_ verbs and is usually omitted if it is cognate with the verb:

(179) ? John wallpapered the lounge with wallpaper.

(180) John wallpapered the lounge.

This implies that the theme is an adjunct.

#### 4.3.13.3 Selected preposition

For most _Butter_ verbs, the substitution of the preposition _without_ produces a contradiction:

(181) * John whitewashed the wall without whitewash.

Since the verb _whitewash_ means specifically ‘to apply whitewash’, the use of _without_ negates the meaning of the verb and creates a contradiction. This implies that the theme is an argument.

As with other verbs of putting, the preposition _with_ seems to have no semantic content with the _Butter_ verbs. Therefore it is probably a semantic argument.
4.3.13.4 Summary

The syntactic tests indicate that the \textit{with}-phrase of the \textit{Butter} verbs is an adjunct. It is always optional because the theme is already incorporated into the verb. If a modified theme is involved it can be expressed syntactically, but this \textit{with}-phrase is still considered a syntactic adjunct. However, the theme of the \textit{Butter} verbs is certainly a semantic argument. It is entailed by the very name of the verb itself.

4.3.14 \textit{Bulge} Verbs

4.3.14.1 \textit{Do so}

As with the \textit{Swarm} verbs, the ‘\textit{do so}’ test is unworkable for \textit{Bulge} verbs:

\begin{itemize}
\item[(182)] * The path bristled with thorns and the lawn did so with dandelions.
\end{itemize}

Again, this is probably due to the non-prototypical subject which is a locative not an agent.

4.3.14.2 Omissibility

The \textit{with}-phrase is obligatory for the \textit{Bulge} verbs; the sentence is incoherent without it:

\begin{itemize}
\item[(183)] The ocean of the Ordovician period seethed *(with life).
\item[(184)] The garden bristled *(with toddlers).
\end{itemize}

By this test, the \textit{with}-phrase is a syntactic argument.

4.3.14.3 Semantic content

\textit{With} cannot be substituted by \textit{without} with the \textit{Bulge} verbs:

\begin{itemize}
\item[(185)] * The path bristled without thorns.
\item[(186)] * The bag bulged without groceries.
\end{itemize}

The verb requires a theme, but \textit{without} denies the existence of the theme. This test indicates that the \textit{with}-phrase is an argument.

The preposition \textit{with} does not seem to contribute any semantic content.

4.3.14.4 Summary

The \textit{Bulge} verbs behave in the same way as the \textit{Swarm} verbs. The only difference is that the \textit{Bulge} verbs do not participate in a subject alternation; the theme is always expressed as a \textit{with}-phrase. Nevertheless, all the tests show that this \textit{with}-phrase is an argument, both syntactic and semantic. I assume that its argument status is identical to that of the \textit{Swarm} verbs.
4.3.15 Summary of the Performance of the Tests

The most rigorous test for argumenthood seems to be obligatoriness, because an obligatory constituent must be an argument. Unfortunately, very few with-phrases pass this test. Failure in this test does not preclude a with-phrase from being a semantic argument. It is generally accepted that an NP may be a semantic argument even if it is not syntactically obligatory.

The ‘do so’ test produced a scale of acceptability, with much variation of speaker judgements in the middle ground. While there are a few verbs whose with-phrases are arguments by the ‘do so’ test, there are many more which give mixed results. Perhaps because the ‘do so’ construction is infrequent and sounds somewhat unnatural, native speakers have varying judgements as to the acceptability of these sentences. Verbs from the same semantic class may produce different responses from the same speaker. Overall, very few verbs with motion theme with-phrases produced acceptable sentences with ‘do so’, therefore the ones that did are considered significant.

The iterability test is quite useless for with-phrases, because the repetition of a with-phrase with the same thematic relation is not acceptable with any verb.

The semantic tests are open to interpretation. The entailment test is the main one for determining a semantic argument. The problem is that most of the verbs analysed in this chapter are verbs of putting or transfer of possession; therefore they are assumed to entail a motion theme. By the Gruber/Jackendoff definition of theme, any verb of motion or transfer of possession must have a theme argument. The theme with-phrases of motion verbs appear to be semantic arguments. Only the with-phrases of the Hit, Swat and Illustrate verbs would not qualify as semantic arguments by this test.

The test for semantic content is an interesting one. This test shows a division between several different classes of verbs. For some of the verb classes with seems to contribute no semantic content at all. This would point to argument status for these with-phrases. For other verb classes, like Swat and Hit, with seems to mean ‘an instrument’, the meaning it has with instrument adjuncts. With others, like Mix and Group, with seems to mean ‘accompaniment’, like the comitative adjuncts. The meaning of the preposition must lead to the conclusion that the with-phrase is probably an adjunct. Besides the meaning of the preposition, the substitution of without is a good test for identifying adjunct with-phrases. Clear adjuncts like manner adverbials can be substituted with without. However, no motion theme with-phrase qualifies as an adjunct by this test; they are more or less argumentlike.

The degrees of acceptability of all the tests hint at a gradual scale of argumenthood for the motion theme with-phrases. Not all with-phrases can be identified clearly as either adjuncts or arguments.
4.4 Results

The results of these tests applied to each class of verbs should give an indication as to which *with*-phrases are more like arguments and which are more like adjuncts. The nature of the *with*-phrase is such that it is very difficult to categorically state that it is an argument or an adjunct. It is even more difficult to apply the label to a whole class of verbs. The verb classes used are based on the alternations that they participate in, but this does not mean that all members of the class have the same characteristics when combined with a *with*-phrase.

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Alternation</th>
<th>Do so</th>
<th>Omissibility</th>
<th>Selected preposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pelt</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Swarm</td>
<td>✓</td>
<td>N/A</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bulge</td>
<td>x</td>
<td>N/A</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Group</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Mix</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Equip</td>
<td>✓</td>
<td>?</td>
<td>?</td>
<td>✓</td>
</tr>
<tr>
<td>Load</td>
<td>✓</td>
<td>?</td>
<td>?</td>
<td>✓</td>
</tr>
<tr>
<td>Fill</td>
<td>x</td>
<td>?</td>
<td>?</td>
<td>✓</td>
</tr>
<tr>
<td>Inscribe</td>
<td>✓</td>
<td>?</td>
<td>x</td>
<td>?</td>
</tr>
<tr>
<td>Butter</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Hit</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Illustrate</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>?</td>
</tr>
<tr>
<td>Swat</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Table 4.3 The argument status of the *with*-phrases of certain classes of verbs

(✓ = argument status, X = no evidence for argument status, ? = test is inconclusive)

Table 4.3 shows the distribution of the verb classes that take motion theme *with*-phrases according to the criteria of argumenthood. If Table 4.3 is compared with Table 4.2 in §4.1.4.7, it can be seen that the assumption embodied in Table 4.2 has not been borne out. The assumption was that semantically similar verb classes which differ only in alternation participation would have similar relations with their *with*-phrases as arguments or adjuncts. The Present and Equip classes are at different levels, even though they differ only in the fulfilling alternation. The *with*-phrase of Present verbs is clearly an argument, while different members of the Equip class
exhibit diverse behaviour. Likewise, the *Inscribed* verbs behave differently from the *Illustrate* verbs in the ‘do so’ test. The *with*-phrases of *Fill* verbs appear to be more like those of *Load* verbs than *Butter* verbs.

Looking down the columns of Table 4.3, the omissibility test marks the division between arguments and non-arguments. The *with*-phrases of the *Present, Pelt, Swarm, Bulge, Group* and *Mix* verbs are arguments. There is a further distinction for the non-arguments; the *with*-phrases of *Equip, Load* and *Fill* verbs could be described as having intermediate status and the *with*-phrases of *Inscribe, Butter, Hit, Illustrate* and *Swat* verbs as adjuncts.

### 4.4.1 Argument *with*-phrases

Only the *Present* verbs show a consistent pattern: all the tests indicate that the *with*-phrases that appear with these verbs are arguments. The argument and its preposition are subcategorised for by the verb. The *Pelt* verbs select a theme as an argument and it obligatorily appears in a *with*-phrase with no alternative syntactic expression. The *Swarm* verbs also show compatibility with argument status, but unfortunately the ‘do so’ test cannot be used with these verbs. Their non-alternating counterparts, the *Bulge* verbs, would qualify as arguments in the same way. The Reciprocal verb classes, *Mix* and *Group*, also have a majority of argument-like characteristics. However, the major point of contention with these verb classes is whether the *with*-phrase is obligatory or not. A *with*-phrase is only required if the subject is singular.

### 4.4.2 *With*-phrases of intermediate status

This category of *with*-phrases does not easily fit into either the argument or the adjunct definition. These *with*-phrases can be defined as semantic arguments but not syntactic arguments. The themes of *Load* and *Equip* verbs are more like arguments than adjuncts. The themes of *Fill* verbs should also be arguments since they have the same semantic and syntactic properties as the *Load* verbs except that they do not participate in alternations. It is difficult to argue that these are syntactic arguments when the *with*-phrases are omissible. On the other hand, these *with*-phrases do not seem to be merely adjuncts which may or may not be added on as additional and unessential information. The NPs in the *with*-phrases are semantic arguments of these verbs and they play an essential role in the events described by the verbs.

### 4.4.3 Adjunct *with*-phrases

There is little evidence to suggest that the *with*-phrases of the remaining verb classes are arguments. The *with*-phrases of *Inscribe, Butter, Hit, Illustrate* and *Swat* verbs lie in the no-man’s-land between the field of arguments and adjuncts. There is not enough evidence to point to one or another category clearly. They are probably not arguments but all these *with*-phrases (except those of the *Swat* verbs) are shown not to be adjuncts by at least one syntactic or semantic
test. They all seem to be semantic arguments by implication; the term *entailment* may be too strong for these verb classes.

### 4.5 Conclusion

This chapter has tested all the motion and location theme *with*-phrases and classified them into three broad categories based on whether they have more properties of arguments or adjuncts. The tests used are theory-neutral and serve to indicate how *with*-phrases might be classified in a theory of grammatical relations. It seems that not all motion theme *with*-phrases will be assigned the same grammatical relation and a complete theory of syntax should be able to account for their different levels in status.

The next chapter will explore how the different categories of *with*-phrases as arguments and adjuncts and intermediate status can be accounted for within the framework of LFG and LMT.
5 An Analysis of *With*-phrases in the Framework of LFG

5.0 Introduction

Chapter 4 identified three groups of motion theme *with*-phrases: the argument type, the intermediate type and the adjunct type.

The argument type *with*-phrases are all obligatory as well as having at least two of the following argumentlike characteristics: they are part of the VP by the ‘do so’ test, they participate in alternations with the subject or object, and/or the preposition *with* is selected. The argument type *with*-phrases include the *with*-phrases of *Present*, *Pelt*, *Group*, *Mix*, *Swarm* and *Bulge* verbs.

The intermediate type *with*-phrases have only one or two of the argumentlike properties listed above. All these verbs select *with* as their preposition to introduce the theme. The *Equip* and *Load* verbs participate in an object alternation, but the *Fill* verbs do not. All of these verb classes produce inconclusive results for the ‘do so’ and obligatoriness tests. Native speakers could not decide whether these *with*-phrases are obligatory or part of the VP. This applies to the same verb as well as different members of a verb class. The doubt surrounding the status of these *with*-phrases does not qualify them to be arguments, but neither does it suggest they are adjuncts. These two tests provide evidence for the existence of an intermediate category between arguments and adjuncts.

The adjunct type of *with*-phrase has at the most one of the argument properties listed above. None of these *with*-phrases are obligatory and only the *with*-phrase of the *Inscribe* verbs has the possibility of being an argument by the ‘do so’ test. Otherwise the adjunct type *with*-phrases participate in an object alternation or select *with* as the preposition, but not both at the same time. The adjunct type *with*-phrases are those which occur with *Inscribe*, *Butter*, *Hit*, *Illustrate* and *Swat* verbs.

An adequate theory of syntax should be able to distinguish between argument type and adjunct type *with*-phrases at least, and preferably also distinguish the intermediate group. In this section, I revisit the three theoretical frameworks of Chapter 3 to evaluate how well each framework is equipped to reflect the variations in argument status of the three groups of *with*-phrases. Section 5.0.1 shows that RG is ill-equipped to handle the distinction between arguments and adjuncts, and Section 5.0.2 shows that RRG analyses almost all themes as arguments, therefore also failing to make the necessary distinction. For this reason, the analysis of *with*-phrases in this chapter is carried out within the framework of LFG.
5.0.1 Relational Grammar classification

In Chapter 3 I proposed two kinds of *with*-phrase in RG: 2-chômeurs and obliques. If all the themes discussed in Chapter 4 are initial 2s they will all be 2-chômeurs as *with*-phrases. There are two caveats to this analysis. First, it assumes that themes are initial 2s, which is not clear from the RG literature\(^1\). Second, it means that the 2-chômeur has two different realisations in English: as a bare NP, like the outer object of a double object construction, and as a *with*-phrase. The realisation of a 2-chômeur as a *with*-phrase in English is supported by Dryer (1986) and Channon (1982) citing an unpublished paper by Perlmutter and Postal. However, Farrell claims that 2-chômeurs are not marked by a preposition (1994:23).

The initial assignment of the term 2 normally falls on a patient argument. I assume that a motion or location theme qualifies as a patient if there is no other patientlike argument. I propose that the themes of verbs of transfer of possession, such as *Present* verbs and *Equip* verbs, since they appear with recipients (3s), must be initial 2s. No other assignment of initial terms seems plausible than that shown in the numbers below the clause in (1). It follows that, when they are expressed as *with*-phrases as in (2), the themes must be 2-chômeurs as shown in Figure 5.1.

\[\begin{align*}
(1) & \quad \text{John presented some flowers to a girl.} \\
& \quad 1 \quad 2 \quad 3 \\
(2) & \quad \text{John presented a girl with some flowers.} \\
& \quad 1 \quad 2 \quad \text{2-chômeur}
\end{align*}\]

![Figure 5.1 Relational network for *John presented a girl with some flowers*.](image)

If *present* is analysed like the dative alternation, to derive (2) from (1), the 3 will be revalued as a 2. This results in the theme (*some flowers*) losing its term status as 2, and going into chômage as a PP.

---

\(^1\) Patients are assumed to be initial 2s, but themes are not mentioned.
Assuming that the theme is an initial 2, its demotion must result in it being a 2-chômeur, contrary to Farrell’s assertion that 2-chômeurs are not marked by a preposition (1994:23). The analysis of the *with*-phrase of *Present* verbs as a 2-chômeur is proposed by Channon (1982). This *with*-phrase cannot be an oblique, because the Oblique Law licenses the assignment of the oblique relation in the initial stratum only (Perlmutter and Postal, 1983:88). The other possibility is that the 2 may be revalued as another term. The revaluation of a 2 to 3 is attested in Kinyarwanda², but not in English (Perlmutter and Postal, 1983:96).

The marking of a chômeur varies between languages and terms. Some chômeurs are marked identically to their terms and some are marked identically to obliques. English employs both strategies. The 1-chômeur is a PP like an oblique, and the double object 2-chômeur is a bare NP like the 2 term. The Chômeur Marking Principle states that unless otherwise specified, an n-chômeur is subject to the same marking rules as an n (Bell, 1983:151). The principle does not state that a chômeur cannot have two different syntactic expressions, for example bare NP or *with*-phrase.

If the *with*-phrase were not a 2-chômeur, then the Fulfilling Alternation as in (1) and (2) would consist of two independent clauses. The theme in (1) remains a 2, but the clause in (1) would not be able to be revalued for the 2 has no alternative realisation if it cannot be a 2-chômeur. This would mean there would be no revaluation between the two variants of *present*. Under this analysis of the *with*-variant, the recipient is viewed as an affected patient and assigned the term 2 while the *with*-phrase is an oblique:

(3) John presented a girl with some flowers.

1 2 oblique

I analyse the *with*-phrases of *Swarm* verbs, *Load* verbs, *Group* verbs and *Mix* verbs, which also alternate and generally behave like syntactic arguments as initial 2s and therefore 2-chômeurs. However, Farrell analyses the two variants of locative alternations as independent clauses, with the theme as 2 in one variant and the locative as 2 in the other. Farrell’s analysis maintains his definition of the 2-chômeur as a bare NP.

The non-alternating verb classes, *Pelt* verbs, *Bulge* verbs, and *Fill* verbs, have only the *with*-variant, so the *with*-phrase cannot be derived from an initial 2. Although the themes of these verbs are arguments, I assume that they are nonterms in RG, because they are PPs, which are not terms except for the *to*-object. Nor are they chômeurs because they are not revalued from initial

² The 3 in Kinyarwanda has similar syntactic properties to the 2 because Kinyarwanda is a symmetrical object language.
2s. This means that these with-phrases are obliques. The with-phrases of Pelt and Bulge verbs are obligatory; it is not clear how RG could stipulate an oblique as obligatory.

The with-phrases of Inscribe and Hit verbs are optional, and therefore syntactic adjuncts, but they do alternate with object arguments. RG has no position on whether chômeurs are arguments or adjuncts, so these adjuncts could be chômeurs. However, considering the syntactic status of these with-phrases, I analyse them as obliques. Since there is no revaluation to oblique, the with-variant cannot be derived from the locative variant of the Inscribe and Hit verbs. Instead, the two variants are independent clauses.

The with-phrases of Butter, Illustrate and Swat verbs, I analyse as obliques because they are optional and do not alternate as objects. There is no possibility of them being chômeurs because they do not alternate.

The with-phrases of Present and Equip verbs are 2-chômeurs, because they are initial 2s, and are demoted to 2-chômeur by the 3. In a similar way, the with-phrases of the Group, Mix, Swarm, Load, Inscribe and Hit verbs alternate as objects, and therefore are analysed as 2-chômeurs. However, the non-alternating with-phrases of the Pelt, Bulge, Fill, Butter, Illustrate and Swat verbs are obliques in my analysis. Their themes cannot be realised as objects therefore are not initial 2s.

The division of the with-phrases into 2-chômeurs and obliques does not reflect the argument status of the with-phrases. Rather it is dependent on whether the theme in the with-phrase has been revalued or not. The relation of chômeur does not reflect syntactic argumenthood, in terms of obligatoriness or inclusion in V’. Having only two labels available for with-phrases – oblique and 2-chômeur – RG cannot distinguish the three categories of argument, adjunct and intermediate.

5.0.2 Role and Reference Grammar classification

RRG can distinguish three grammatical relations applicable to with-phrases: argument, argument-adjunct and adjunct. These three groups appear to correspond quite well to the categories listed in §5.0. However, most motion theme with-phrases would be considered arguments in RRG. Any theme which is a semantic argument of the verb is considered a core argument (Van Valin and LaPolla, 1997:26). Therefore, the motion theme with-phrases of Present, Pelt, Swarm, Bulge, Group, Mix, and probably Load, Equip and Fill verbs would be oblique core arguments.

RRG provides the same analysis for the with-phrases of verbs like load, spray, supply and present (Van Valin and LaPolla, 1997:144-5, 336). This implies the same analysis for all Present verbs and Load verbs, but the with-phrases of these verb classes do not have the same argument status according to the tests in Chapter 4.
The RRG analysis stems from the rule for assigning *with* introduced in §3.3.1 and repeated here (Van Valin and LaPolla, 1997:377):

(4) **Rule for assigning *with* in English**

Given two arguments, \(x\) and \(y\) in a logical structure, with \(x\) lower than or equal to \(y\) on the Actor-Undergoer Hierarchy, and a specific grammatical status (macrorole, head of NP), assign *with* to the \(y\) argument iff it is not selected for that status.

The rule covers themes which are semantic arguments but which fail to achieve macrorole status because two other arguments fill the macrorole array. It does not apply to all themes though, but only the *with*-phrases which alternate with objects. The verb classes from Chapter 4 whose *with*-phrases alternate are the *Present*, *Swarm*, *Group*, *Mix*, *Equip Load*, *Inscribe* and *Hit* verbs. Non-alternating *with*-phrases are not the product of this rule, because the rule only applies where there are two possible mappings to a macrorole. However, this rule does cover the *with*-phrases of *Inscribe* and *Hit* verbs which alternate with objects, even though the *with*-phrase of these verbs is an adjunct.

I do not assume that the term *argument* in the rule refers to the syntactic argument status of the *with*-phrase. Instead, the *with*-phrases are arguments because of their ability to alternate with a direct core argument (Van Valin and LaPolla, 1997:30). Any PP which participates in an alternation with subject or object must be an argument in RRG, regardless of the outcome of the other syntactic tests used in Chapter 4.

The RRG rule in (4) predicts that all *with*-phrases which alternate with objects or subjects are arguments (under the RRG definition of argument). Their ability to alternate as object admits them into the core of the clause which makes these *with*-phrases oblique core arguments. However, RRG defines a core argument as ‘an argument which is part of the semantic representation of the verb’ (Van Valin and LaPolla, 1997:26). Although the core is a syntactic unit, it is semantically motivated and it contains all the semantic arguments of the verb (Van Valin and LaPolla, 1997:28). The semantic arguments of a verb are not necessarily syntactic arguments by the tests in Chapter 4.

All the motion themes of the alternating verbs in Chapter 4 are semantic arguments, except maybe those of the *Hit* verbs. Argument structure in RRG is determined by the Aktionsart\(^3\) of the verb (such as, state, activity, accomplishment), which corresponds to a certain configuration of logical structure containing the required number of arguments (Van Valin and LaPolla, 1997:109). The arguments which appear in logical structure are the semantic arguments of the verb. However, RRG cannot distinguish between *with*-phrases which are semantic and syntactic arguments.

---

\(^3\) Classification of verbs in terms of their inherent temporal properties (Van Valin and LaPolla, 1997: 91).
arguments, and \textit{with}-phrases which are semantic arguments but not syntactic arguments. For example, both the \textit{with}-phrase of \textit{present} and the \textit{with}-phrase of \textit{hit} are oblique core arguments in RRG (Van Valin and LaPolla, 1997:337), despite the fact that the \textit{with}-phrase of \textit{present} has many more argument properties than that of \textit{hit}, for example, obligatoriness, selection of the preposition, and inclusion in the V’ by the \textit{do so}’ test.

\textit{With}-phrases which do not alternate do not come under the rule in (4), because they do not compete for macrorole status. These are the \textit{with}-phrases of \textit{Pelt}, \textit{Bulge}, \textit{Fill}, \textit{Butter}, \textit{Illustrate} and \textit{Swat} verbs. The motion themes of these verbs cannot be actors or undergoers. The rule for assigning \textit{with} does not have anything to say about the arguments of verbs like \textit{pelt}, where the patient is always the undergoer. However, these \textit{with}-phrases are arguments by general principles of RRG. They are arguments of the verb because they are part of the semantic representation of the verb (Van Valin and LaPolla, 1997:26).

Most of the \textit{with}-phrases of the non-alternating verbs in Chapter 4 are semantic arguments, except maybe those of the \textit{Illustrate} and \textit{Swat} verbs. Those \textit{with}-phrases which are semantic arguments qualify as arguments in RRG. Even the \textit{with}-phrase of a \textit{Butter} verb is an argument, despite only one of the syntactic tests (selected preposition) indicating such status. The classification of these themes as arguments depends on their being semantically necessary participants in the action described by the verb. This definition of argument is problematic for some members of the \textit{Illustrate} and \textit{Swat} verb classes, for example. It can be very difficult to decide whether the theme is conceptually necessary or not with verbs like \textit{punch} and \textit{claw}. Their themes are optional or lexicalised in the verb itself.

Any themes which are not semantic arguments of the verb may be argument-adjuncts in RRG. This classification applies to arguments which are introduced into the clause by a predicative preposition and appear in the core, but which are not true arguments of the verb (Van Valin and LaPolla, 1997:161). As explained in §3.3.4, an argument-adjunct \textit{with}-phrase is an implement. This category may apply to the \textit{Illustrate} and \textit{Swat} verbs in RRG, because they are arguments of the predicate \textit{use’}.

None of the \textit{with}-phrases discussed in Chapter 4 would fall into the adjunct category in RRG. The only \textit{with}-phrase that is an adjunct is one that describes manner, as illustrated in §3.3.3.

RRG is unable to distinguish between the motion theme \textit{with}-phrases. Almost all themes of verbs of transfer of location or transfer of possession are semantic arguments in RRG, therefore are core arguments in syntax. A few of these \textit{with}-phrases may be analysed as implements, and so will be argument-adjuncts.
5.0.3 Lexical Functional Grammar

The framework of LFG provides a rich environment for exploring the status of *with*-phrases. First, it identifies a good number of grammatical functions with explicit properties. These include argument and non-argument PPs. Second, it has a clear system of mapping from thematic roles to grammatical functions. Therefore, LFG has more possibilities for classifying *with*-phrases than either RG or RRG.

LFG also has a simple way of representing an optional argument. The argument is present in a-structure but it is written in parentheses, meaning that it may optionally be mapped to syntax (Bresnan, 2001:77). By contrast, in RG an oblique is optional but a chômeur may be either optional or obligatory. For example, the passive *by*-phrase, a 1-chômeur, is optional, but the 2-chômeur in the double object construction (the theme) is obligatory. The relational network cannot indicate the optionality of the revalued terms. In RRG an argument slot may be unspecified, meaning it does not occupy a syntactic argument slot. For example, the logical structure *Pedro is eating* does not specify the thing eaten:

(5) \( \text{do'} (\text{Pedro}, [\text{eat'} (\text{Pedro}, Ø)]) \)

However, the lexical entry does not indicate which arguments are optional. Parentheses are used for grouping logical structures in this framework.

The remainder of this chapter offers an analysis of *with*-phrase themes in the framework of LFG. The three major categories of *with*-phrases are discussed in turn, with examples from each verb class.

5.1 The Adjunct Type *with*-phrases

A good case can be made for analysing many *with*-phrases as ADJ. As shown in Chapter 4, the *with*-phrases of *Inscribe, Butter, Hit, Illustrate* and *Swat* verbs have few argument properties. The standard tests of argumenthood indicate for the most part that these *with*-phrases are not arguments. Therefore, I analyse these *with*-phrases as ADJs. Although they are not as distant from the verb as other ADJ PPs, their syntactic properties still do not qualify them as arguments or OBLs. The category ADJ seems the most appropriate for these *with*-phrases considering that there is yet another group which is more like arguments than these *with*-phrases but still not fully argumentlike (i.e. the intermediate group). This latter group has much more reason to be included in the OBL category than the *with*-phrases of *Inscribe, Butter, Hit, Illustrate* and *Swat* verbs.

Nevertheless, in each case, there is still at least one test that shows that the *with*-phrase is not a pure adjunct. For example, the themes of *Hit* and *Inscribe* verbs can alternate as direct objects. This is not normally a property of adjuncts, and it is not ideal to label these constituents as ADJ.
This can be solved by having two lexical entries, one in which the theme is OBJ and an argument, and another which does not include the theme, making it an adjunct.

5.1.1 Alternating verbs

The alternation of *hit* suggests there are two different lexical entries: Hit₁ and Hit₂. Hit₁ has the theme as the direct object and Hit₂ has the locative as the direct object. These two lexical items are related by a lexical rule. The other point of difference between the two verbs is that Hit₁ has three arguments: an agent (SUBJ), a theme (OBJ) and a locative (OBL). When the theme is OBJ, the locative becomes obligatory in order to avoid the reading of the OBJ as patient rather than theme. Hence there are three arguments; the third is an OBL. (See §3.1.1 for a detailed explanation of the mapping).

(6) ‘Hit₁’ < Agent Theme Locative >
[-o] [-r] [-o]
[-r ] [+o] [+r]
SUBJ OBJ OBL
Bill hit the cane against the wall.

On the other hand, Hit₂ has only two arguments because if the locative is the direct object, the correct reading is obtained and the sentence is complete and grammatical, even if only two arguments are expressed. The locative can be considered a patient because it is the ‘locus of the effect’ (Bresnan and Kanerva, 1989:24). The theme is optional. It will not appear in a-structure; it is an ADJ which is added on later.

(7) ‘Hit₂’ < Agent Patient >
[-o] [-r]
[-r]
S S/O ADJ
Bill hit the wall (with the cane).

In the lexical entries of Hit₁ and Hit₂, the theme is an argument in (6) and not in (7). Hit₁ does not have a *with*-phrase; its theme is an OBJ because it is an argument. Hit₂ has a *with*-phrase which contains the theme; this theme is an adjunct. The theme is an argument only if it is an OBJ, but the *with*-phrase is always an ADJ.

The f-structure of Hit₂ is as in Figure 5.2 with the *with*-phrase in the adjunct set:
Figure 5.2 f-structure of a clause with an adjunct with-phrase (Bill hit the wall with the cane)

The preposition for the adjunct type with-phrases is the predicative form of with. Because the verb does not select a theme argument, the predicative preposition is required to indicate the thematic relation of the theme.

The same analysis applies to the Inscribe verbs as these are also alternating verbs. The with-phrase is always an adjunct, and the verb does not subcategorise a theme argument in the with-variant.

5.1.2 Non-alternating verbs

The with-phrase of Illustrate verbs does not alternate with the OBJ; the theme is always expressed as a with-phrase. The only argumentlike property that the with-phrases of Illustrate verbs have is the selected preposition, but this is also in doubt because without can be substituted in certain contexts:

(8) Bill labelled his keys without his name and address.

If the with-phrase is not an argument, the verb label has only two arguments: an agent and a patient as shown in (9). The f-structure is the same as Figure 5.2 but with different values for the PRED features.

(9) ‘Label’ < Agent Patient >
    [-o]   [-r]
    [-r]
    S S/O ADJ

He labelled the keys (with his phone number).
The other non-alternating verb classes whose with-phrases are adjuncts are the *Butter* and *Swat* verbs. I analyse the with-phrase of *Swat* verbs as for the *Illustrate* verbs, where the agent and patient are arguments and the theme is an optional adjunct. The theme of the *Butter* verbs is usually unexpressed, so it is clearly an optional adjunct.

### 5.1.3 Summary

While some of the with-phrases of the adjunct type group of verbs alternate as objects of the same verbs, this does not mean that the with-phrases are arguments. I analyse the alternating verbs as having two lexical entries, one where the theme is an object and an argument, and another where the theme appears in a with-phrase and is an adjunct. The with-phrases which do not alternate are always adjuncts. Therefore the with-phrase of the *Inscribe*, *Butter*, *Hit*, *Illustrate* and *Swat* verbs is always analysed as an ADJ. This is a good outcome since the syntactic tests in Chapter 4 proved them to be adjuncts.

The analysis given here of ADJ is the standard LFG analysis (Bresnan, 1982c). The predicative form of *with* is necessary to introduce an ADJ because it is not part of the verb’s subcategorisation, therefore needs to be licensed by another PRED. A second reason for using the predicative *with* is that the results of the test in Chapter 4 indicate that the preposition is not selected by the verb for the adjunct type with-phrases.

### 5.2 With-phrases as OBL

Chapter 4 concluded that at least two with-phrases are arguments: they are the theme arguments of the *Present* verbs and *Pelt* verbs. They are syntactic arguments because they are obligatorily expressed with those verbs, and semantic arguments because they are conceptually necessary to the events of presenting, providing, pelting etc. The preposition *with* is selected by these verbs and no other preposition can substitute for it.

Because this *with*-phrase is an argument by all the tests in Chapter 4 it must be accorded argument status in an adequate theory of syntax. In LFG, I analyse the *with*-phrase of *Present* and *Pelt* verbs, as well as other argument type with-phrases, as an OBL, an argument which is marked by a preposition in English.

Bresnan (1982b:323) analyses the theme of *present* as either an OBJ as in (10) or OBLθ as in (11).

(10) John presented some flowers to a girl.
(11) John presented a girl with some flowers.

She does not develop the analysis further, but I offer a detailed analysis here. I assume the c-structures of both alternations of a clause with *present* to be identical as in Figure 5.3. Bresnan
(2001) does not offer an analysis of the dative alternation, but I have based Figure 5.3 on Bresnan’s analysis of *give*, which has the *to*-object as an OBLdat in f-structure (2001:279). I further assume that both the PP in (10) (which follows from the *to*-object with *give*) and the PP in (11) are OBLs. The only difference in c-structure is in the lexical items at the ends of the branches.

![Diagram of C-structure](image)

Figure 5.3 C-structure diagram of an argument *with*-phrase (cf. Bresnan, 2001:279)

Because *some flowers* is an argument of the verb in (11), I assume its grammatical function is OBL. Like the passive, this kind of alternation is also processed at the lexical level. It follows that there are two distinct but related lexical entries for *present*, one with the goal as an OBL (OBL\_DAT) and one with the theme as an OBL (OBL\_THEME). Both of these OBLs are case-marking OBLs (see §3.1.4). As their prepositions are case-markers, the OBL function includes a CASE feature rather than a PRED feature (see Fig. 5.4 and 5.5). The other argument is of course the OBJ. From this we can produce the following two lexical entries:

(12) ‘Present\_1’ (S, O, OBL\_DAT)
(13) ‘Present\_2’ (S, O, OBL\_THEME)

The f-structures for these two alternants are as in Figure 5.4 and 5.5 respectively. This notation is patterned after Bresnan (2001).
John presented some flowers to a girl.

Figure 5.4 f-structure for *present* with OBL_{DAT}

John presented a girl with some flowers.

Figure 5.5 f-structure matrix for *present* with theme OBL
The only differences between the two f-structures are the different values for CASE, which are due to the semantic features of the arguments concerned. The to-object bears dative case since its verb selects a recipient, and the with-phrase bears the ‘Theme’ case because its verb selects a theme. The Theme case is my own innovation to name the case of argument type with-phrases (see §3.1.5). I assume that this with-phrase OBL is a case-marker and has no independent semantic content. The case-marking OBL is reserved for a select group of verbs only (that is, those which select the preposition with for an obligatory theme argument: the Present, Swarm, Pelt and Bulge verbs) while the other argument type with-phrases have a semantic oblique complement function i.e. OBL\textsubscript{θ} (see §3.1.4), which means that the NP is the object of the preposition, and the OBL has a PRED feature but not a CASE feature.

As mentioned in Chapter 3, Lexical Mapping Theory (LMT) does not predict the mapping of a theme to the OBL function for reasons which are explained in the next section. I refer to Falk’s version of LMT (2001:101-119) unless otherwise stated.

5.2.1 The problem with Lexical Mapping Theory: Themes and other patientlike roles

As demonstrated in §3.1.1, if a verb has three arguments in \textit{θ}-structure\textsuperscript{4} such as agent, recipient and theme, it maps to an f-structure with a SUBJ, an OBJ and an OBJ\textsubscript{θ}. This is due to the Asymmetrical Object Parameter (see §3.1.1 and (15) below). Under the current LMT (Falk, 2001; Bresnan, 2001), the combination of agent, recipient and theme roles results in the lower-ranked thematic role, that is, the theme, being assigned the function OBJ\textsubscript{θ}. The clause is then realised as a double object construction.

LFG lacks an explicit theory of thematic role assignment. Falk (2001:101) admits that ‘thematic roles are vague labels’. Falk uses a theory of thematic roles based on Jackendoff (1990a), and adds that many other researchers in LFG do the same.

In this theory, Falk claims to employ the Jackendovian system of two layers: the action conceptualisation consisting of ACTOR and PATIENT, and the spatial conceptualisation where thematic roles such as Instigator, Theme, Goal etc. are used. ACTOR and PATIENT are defined as ‘an entity that acts’ and ‘one that is acted on or affected’ respectively (Falk, 2001:101). The spatial tier is a conceptualisation of ‘elements in terms of location or movement, either in physical space or in some abstract space such as possession, physical properties or time’(Falk, 2001:101). However, despite acknowledging these two distinct conceptualisations, Falk posits only one thematic hierarchy, combining the two conceptualisations, and stipulating that the

\textsuperscript{4} Falk distinguishes between \textit{θ}-structure which consists of thematic roles and a-structure which consists of syntactic features (Falk, 2001:105).
‘action conceptualisation takes priority over the spatial’ (Falk, 2001:104). The thematic hierarchy is shown in (14).

(14) Thematic Hierarchy\(^5\)
Agent > Patient/Beneficiary > Theme > Path/Location/Reference Object

ACTOR does not feature in this hierarchy because an Instigator is always an ACTOR and this role is referred to as Agent (Falk, 2001:103). PATIENT does not have such a consistent correlation to roles in the spatial conceptualisation, so is accorded its own place in the thematic hierarchy as a thematic role. Besides the thematic role of Patient, Falk and other proponents of LMT utilise the notion of ‘patientlike roles’, which includes more roles than just the Patient role. The term ‘patientlike roles’ is used rather loosely in other versions of LMT, and has even been defined as ‘internal arguments’ (Alsina and Mchombo, 1993:36). In practice patientlike roles are those which are likely to surface as objects, such as Theme and Beneficiary (which includes Recipient in Falk’s hierarchy).

ACTOR and PATIENT in the Action tier can be compared to the macroroles Actor and Undergoer in RRG (See § 2.4.2). For clarity, I use small capitals to represent the PATIENT macrorole. In particular, PATIENT as used by Jackendoff identifies the argument which is to be mapped to object. In effect, the patientlike roles referred to in LMT are those which are likely to be assigned the role of PATIENT in the Action tier, because they are viewed as affected or acted upon. Thus they are PATIENTLIKE roles.

In LFG, the mapping from thematic roles in θ-structure to the grammatical functions of f-structure is mediated by the assignment of the features [-o] and [-r] in a-structure. It follows that PATIENTLIKE roles are those which are candidates for the assignment of [-r], leading to realisation as OBJ. These roles are Beneficiary, the LFG thematic role of Patient, and Theme. An actual PATIENT role is one which has actually been assigned [-r].

Falk identifies Patients and Beneficiaries as affected entities (2001:104): this is why these roles are normally assigned [-r] and eventually map to the OBJ function. In effect, the status of affected entity makes an argument PATIENTLIKE. Falk distinguishes between the thematic roles of Theme and Patient, and defines the Theme as ‘the thing being moved or located (either in physical space, or in terms of semantic fields like possession)’ (2001:101). Themes are also PATIENTLIKE roles and are normally assigned [-r].

\(^5\) Falk adds Instrument to his final version of the Thematic Hierarchy based on Jackendoff’s discussion of instruments (1990a). However, Jackendoff’s discussion of the hit alternation (1990a:142-4) makes it clear that this instrument is an embedded theme in Jackendoff’s more detailed Conceptual Structural Representations. Accordingly, Jackendoff’s instrument, adopted by Falk, is included in the Theme role, and is not included here as a separate role.
This leaves the thematic role of Patient as an affected entity which is not moved or located. In effect, the Patient role is roughly equivalent to ‘impactee’ or ‘contactee’ with verbs like *hit and *rub. The ranking in Falk’s thematic hierarchy reflects a gradation of affectedness, with more PATIENTLIKE roles such as Patient and Beneficiary being higher than Theme.

The separation in ranking of Patient and Theme is one reason why Falk’s thematic hierarchy is superior to other versions such as Bresnan’s hierarchy introduced in §2.2.2 which has Patient and Theme at the same rank. The separate ranking of Patient and Theme is crucial to the analysis of the Load, Fill and Pelt verbs as will be seen.

It should be noted that Falk’s hierarchy includes neither recipient nor goal. Recipient is subsumed in the Beneficiary role, and an inanimate goal is a Location. However, the term goal is used by Falk to name the OBL function assigned to the to-object6 (2001:14). The features of the OBL function are [-o] and [+r] not [-r], which suggests that goal is a Location or Reference Object. I avoid the term goal, using Location instead for the locative goals, including the to-object.

5.2.1.1 The Asymmetrical Object Parameter

The Asymmetrical Object Parameter (AOP) states that only one role in any a-structure can be assigned the unrestricted feature [-r] (Bresnan and Moshi, 1990:172). It is represented as follows:

(15) Asymmetrical Object Parameter7

\[
\begin{array}{c}
\theta \. . . \theta \\
\mid \\
[-r] & [-r]
\end{array}
\]

This constraint is not present in all languages, but it holds in English.

The AOP comes into effect when there is more than one PATIENTLIKE role, that is more than one of Patient, Beneficiary and Theme. Patients, Beneficiaries and Themes normally map to [-r] in a-structure (as in (16)), but the AOP prevents more than one [-r] assignment (Falk, 2001:114). This situation arises under clause (b) of Falk’s mapping rules:

(16) \theta-structure to a-structure mapping (Falk, 2001:107)

- a. Patients and Themes map to [-r]
- b. ‘Secondary’ Patients and Themes map to [+o] as a marked option
- c. non-Theme/Patient arguments map to [-o]

---

6 Jackendoff defines a goal as the argument of the Path-function TO (1990:47)
7 ‘Asymmetrical Object Constraint’ may be a more accurate term, but this name is well-established in the literature (Bresnan and Moshi, 1990:172; Bresnan, 2001:310; Falk, 2001:114).
There are a few problems with Falk’s formulation of the Mapping rules. Clause (a) mentions only Patients and Themes, but I assume it is intended to include Beneficiaries as well, since these are also normally assigned [-r]. Clause (a) should therefore be rewritten as:

(17) a. PATIENTLIKE roles (i.e. Patients, Beneficiaries and Themes) map to [-r].

Clause (b) mentions Patients and Themes again, and here Falk is correct in excluding Beneficiaries because Beneficiaries never map to [+o] (Bresnan and Moshi, 1990:168). However, Falk states that in English, the roles which are assigned [+o] are ‘Themes which are not also Patients’ (Falk, 2001:107). This is incoherent, since Patient and Theme are different roles at different ranks on the thematic hierarchy. A more coherent description would be a Theme which is not also a PATIENT despite Theme being a PATIENTLIKE role. Therefore, a secondary Patient or Theme is one which despite being a PATIENTLIKE role fails to be a PATIENT and so is not assigned the [-r] feature.

The secondary Patient in (16b) is not found in English: only Themes get [+o] in English. The roles which are assigned [+o] by (16b) vary cross-linguistically, for example, in some Bantu languages it applies to patients, themes, instrumentals and locatives (Alsina and Mchombo, 1993:26). Falk hypothesises that in Romance languages it applies to non-Theme Patients (Falk, 2001:115), but if an argument is mapped to [+o] it cannot be a PATIENT. I assume that Falk means that in Romance languages [+o] is assigned to PATIENTLIKE roles excluding Themes.

Clause (c) has the problem that, similar to clause (a), Falk does not mean only Patients and Themes but seems to be referring to non-PATIENTLIKE roles. If this is not stated, the clause would also apply to Beneficiaries, but Beneficiaries do not map to [-o]. The correct formulation means that Patient, Beneficiaries and Themes are excluded from mapping to [-o] by clause (c) as revised below:

(18) c. nonPATIENTLIKE roles (i.e. roles other than Patients, Beneficiaries and Themes) map to [-o].

In English (16b) applies only to Themes which are not also PATIENTS (Falk, 2001:107). Since Themes are usually PATIENTS unless there is another PATIENTLIKE argument, secondary Themes are Themes which are coarguments of Patients, Beneficiaries or another Theme. The assignment of [+o] as specified in (16b) could be stated for English as in (19):

(19) Secondary Theme Rule (first approximation)
A Theme which appears with another PATIENTLIKE argument is assigned the feature [+o].
It is this rule which assigns [+o] to a displaced Theme, as the AOP in (15) does not indicate the alternative classification for the second [-r] role. The rule in (19) applies only to English, for the definition of secondary theme varies between languages.

The result is that the secondary Theme which is assigned the alternate feature of [+o] will become the OBJθ as shown in (20):

\[
\begin{array}{c|c|c|c}
\text{(20) ‘Give’} & \text{< Agent, Beneficiary, Theme, >} & \text{[-o]} & \text{[-r]} & *[-r] & \text{AOP} \\
 & & [-o] & [-r] & [+o] & \text{Secondary Theme Rule} \\
\text{SUBJ mapping} & \text{[-r]} & \text{[-o]} & \text{[+o]} & \text{nonSUBJ mapping} \\
\text{S} & \text{S/O} & \text{OBJθ} \\
\end{array}
\]

John gave Mary some flowers.

So, in LFG and LMT, Themes that appear with other PATIENTLIKE roles are mapped to OBJθ. This would include the Theme arguments of many verbs with three arguments, such as the Themes of Present verbs, Load verbs and Pelt verbs, which in English are expressed as with-phrases, not outer objects as the Secondary Theme rule predicts.

The problem with the AOP and the assignment of [+o] to Themes is that Themes which are not OBJs are unable to map to with-phrases which I analyse as OBLs. There is a possibility that a with-phrase may be analysed as an OBJθ. A PP could be analysed as OBJθ as Alsina does for the French dative à-phrase (Alsina, 1996), but I assume that a with-phrase cannot be mapped to OBJθ because the with-phrase does not have the objectlike properties that a Theme in a double object construction has. For example, the with-phrase in (22) cannot support adjectival secondary predication (Baker, 1997:90), while the NP theme in (21) can:

\[
\begin{align*}
\text{(21)} & \quad \text{They sent us this meat frozen.} \\
\text{(22)} & \quad \text{* They supplied us with this meat frozen.}
\end{align*}
\]

This means that LMT cannot explain the Themes of Present and Pelt verbs which are expressed as with-phrases. For example, the verb present has a θ-structure identical to that of give in (20), which falsely predicts a double object construction for present:
LMT can explain how a Theme becomes an OBJ or OBJ\(_0\). A Theme is mapped to OBJ if it assigned the a-structure feature of [-r]. It maps to an OBJ\(_0\) if it is assigned [+o]. However, there is no mechanism in LMT to map a Theme to an OBL, which is the desired outcome for motion theme with-phrases which are arguments.

### 5.2.2 Possible Solutions

There are four possible solutions to the problem of Themes being mapped to OBJ\(_0\) rather than OBL:

1. refine the rules of LMT;
2. offer an alternative mapping for Themes;
3. appeal to Theme Suppression; or
4. add a lexical specification to all verbs of the *Present* class and other argument with-phrases.

Each of these options is described below.

Lexical specification is necessary for the *Present* and *Equip* verbs in any case, because none of the other methods can map their with-phrases to OBL. Theme suppression does not work for any of the Themes under consideration here. The first two solutions are effectively the same, and the first one is adopted because it is necessary to specify the particular conditions for mapping Themes to OBL in English.

#### 5.2.2.1 Refine the rules of LMT

The with-phrase is found in more semantic fields than the OBJ\(_0\) is. In English, the double object construction only occurs with certain verbs of transfer of possession (literal or figurative, successful or unsuccessful) (Goldberg, 1995:32). This implies that the Secondary Theme rule should be restricted to verbs of transfer of possession, or verbs whose arguments have the thematic roles of Agent, Beneficiary and Theme, and another rule should apply to verbs with both a Theme and a non-Beneficiary PATIENTLIKE argument. In other words, the presence of the Beneficiary argument is the trigger for the Secondary Theme rule, and hence the double object construction. The new rule is developed below.
A rule for verbs with three arguments including a Theme

There are three main classes of verbs with three arguments, as shown in Table 5.1:

1. Dative verbs which take the preposition *to* (*give, send, kick* etc)
2. Benefactive verbs which take the preposition *for* (*bake, sing, etc*)
3. Verbs of putting (*load, cover, inscribe* etc)

<table>
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<th>Arguments</th>
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<tr>
<td>Dative Agent Theme</td>
<td><em>give, send, kick</em></td>
<td>SUBJ OBJ OBL and SUBJ OBJ OBJ&lt;sub&gt;0&lt;/sub&gt;</td>
</tr>
<tr>
<td>Benefactive Agent Theme</td>
<td><em>bake, sing, knit</em></td>
<td>SUBJ OBJ OBL and SUBJ OBJ OBJ&lt;sub&gt;0&lt;/sub&gt;</td>
</tr>
<tr>
<td>Putting Agent Theme</td>
<td><em>load, inscribe, cover</em></td>
<td>SUBJ OBJ OBL&lt;sub&gt;Loc&lt;/sub&gt; and/or SUBJ OBJ OBL&lt;sub&gt;Theme&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Table 5.1 The syntactic frames of some verbs with three arguments

The Dative and Benefactive verbs have a double object construction where the Theme maps to the grammatical function OBJ<sub>θ</sub>, while the verbs of putting do not. The double object frame in English applies only if one of the arguments is a recipient or beneficiary, that is, a Beneficiary in Falk’s hierarchy. Goldberg (1995:142) states quoting Green (1974:103) that the goal argument of ditransitives must be a recipient. The double object frame is not applicable to clauses which lie outside of this category, such as (24) which has a Location instead of a Beneficiary:

(24) * John sent London a letter.

I hypothesise that it is Falk’s role of Beneficiary which sanctions the double object frame. Therefore, only in the presence of a Beneficiary argument would a Theme be assigned the function OBJ<sub>θ</sub>. Because verbs of putting have no Beneficiary role, they do not exhibit the double object frame.

Instead of being mapped to OBJ<sub>θ</sub>, the Themes of verbs of putting such as the *Load* verbs should be assigned [-o] which makes them OBLs. Themes are not restricted to being objects; they can also be SUBJ or OBL. Therefore it is not odd for a Theme to be assigned [-o].

I therefore propose an additional clause (25) to the Secondary Theme rule in (19):
(25) Revised Secondary Theme Rule
   a. A Theme which appears with a Beneficiary argument is assigned the feature [+o].
   b. A Theme which appears with another PATIENTLIKE argument other than Beneficiary is assigned the feature [-o].

In (25a) the original rule is restricted to $\theta$-structures with Beneficiary arguments, and (25b) applies to all other $\theta$-structures with two PATIENTLIKE roles. Of course this second clause, like the first, is specific to English, for other languages may allow Instruments or other roles to be secondary objects.

The AOP in (15) is merely a prohibition on the coexistence of two [-r] arguments in certain languages including English. It does not spell out what will happen to the superfluous [-r] argument. For English the consequence is stated in the Secondary Theme rule as in (25). One of the [-r] arguments is to be assigned [+o] or [-o].

It is clearly stated in Bresnan and Moshi (1990:168) that a recipient or beneficiary cannot be assigned [+o]. This is a universal prohibition. It follows that a Beneficiary can never be a restricted object in any language. Therefore, when there are Beneficiary and Theme coarguments, it is the Theme which is assigned [+o].

Falk argues that the AOP in (15) cannot be a condition on thematic roles because the thematic roles can coexist; only a certain mapping to syntax is blocked (2001:114). This mapping is encoded in features assigned in a-structure. Therefore the AOP must be a constraint on a-structure. However, the assignment of alternative features as a result of this constraint as in (25) must refer to thematic roles, at least in English.

5.2.2.2 The Mapping of Themes to [-o]

An alternative way to map a Theme argument to OBL is to have a third mapping option available for Theme, as shown informally in (26).

(26) Oblique Theme Mapping

   A Theme may be assigned [-o] if it is one of three arguments, none of which is a Beneficiary.

---

8 Note that a mapping option is different from the lexical specification proposed in §5.2.2.4. Lexical specification is attached to certain verbs or classes of verbs and these verbs have no alternative but to follow the specification. In contrast, an alternate mapping is available to all NPs which bear the appropriate semantic role, in this case, Theme.
With this alternative, a Theme could be assigned [-r] (default) or the alternative [+o] or yet another alternative [-o]. Two possible objections arise here.

The first objection is that the Theme has no distinctive character if it is able to be assigned three out of four possible features. In fact, one might argue that the fourth feature [+r] is not a possible mapping from 0-structure to a-structure; no example is found in the literature and [+r] seems to be used only to fully specify arguments which are not already [-r].

Therefore adding a possible alternate [-o] assignment to the Theme argument is tantamount to saying that a Theme can be any function at all. This seems unsatisfactory for it leaves the Theme open to ad hoc analysis. On the other hand, Themes can appear in the clause as almost any grammatical function. A Theme can be a SUBJ or an OBJ or an OBJ0 or an OBL or even an ADJ. On this view, [-r], [-o] and [+o] are all valid values for a Theme.

The Theme is assigned the feature [-r] because it can be either a SUBJ or an OBJ (Falk, 2001:106). If a Theme is the sole argument of an intransitive verb it is the subject. If the Theme is one of two arguments it is usually the object, but may be the subject if the other argument is a Location, the only role below Theme on the thematic hierarchy.

As has been mentioned earlier, a Theme may be assigned [+o] by the Secondary Theme Rule. Both the first formulation of the Secondary Theme Rule in (19), based on clause (b) of Falk’s mapping rules cited in (16), and the Revised Secondary Theme Rule in (25), assign [+o] to a Theme which will be realised as OBJ0 – the outer object in a double object construction.

However, there is one other [-r] [-r] combination: Patient-Theme as in (27), and the Theme must be assigned [-o] where neither of the two PATIENTLIKE arguments is a Beneficiary:

(27) John inscribed the ring with the name.

This combination of roles does not map to a double object, so there cannot be a [+o] argument in its a-structure. Secondary Themes which are neither OBJ nor OBJ0 map to OBL, a function whose features are [-o] and [+r]. Therefore there should be a rule which assigns [-o]. This is not only true of English, for Lødrup (2000) provides evidence from Norwegian that a theme in a resultative construction must have the option of [-o] as an intrinsic classification, and this assignment is also dependent on the thematic role of a coargument (Lødrup, 2000:181).

The second objection is that the assignment of [-o] cannot be independent of the Secondary Theme rule. As formulated in (26), the conditions for the assignment of [-o] are unclear, and therefore it requires either another rule which is not independent of the Secondary Theme Rule, or changing the Secondary Theme rule itself, as proposed above in (25). If a separate rule is proposed, it cannot be independent because the principle of monotonicity (Bresnan and Kanerva, 1989: 25) does not allow the a-structure feature to be changed after it is assigned. Monotonicity
means that syntactic features cannot be changed from positive to negative or vice versa. They
cannot be deleted either, only added. Therefore any rule which assigns an alternative mapping
must be applied simultaneously with the Secondary Theme Rule and the normal [-r] assignment.
This being the case, then it may be preferable to combine these two rules into one rule, which in
fact turns out to be the same as the two part Revised Secondary Theme rule in (25).

It may seem preferable to have a more general, universal rule for mapping to OBL which is
applicable to other languages, but the choice between [+o] and [-o] is language specific, and
therefore the detailed conditions will have to be stated in language-specific rules anyway. This
means that the Revised Secondary Theme rule is not dispensable, but rather Oblique Theme
Mapping is superfluous to the problem of with-phrase themes.

5.2.2.3 Theme Suppression

LFG allows for the suppression of unmarked roles in a-structure (Bresnan and Kanerva,
1989:170; Bresnan, 2001:310). Unmarked roles means those with a negative feature, that is,
[-r] or [-o], as their a-structure feature.

Theme Suppression\(^9\) resembles the passive but instead of suppressing theta-hat, it targets
PATIENTLIKE roles, that is, arguments which are [-r] (Alsina and Mchombo, 1993:39; Bresnan,
2001:310):

\[
\text{(28) Theme Suppression}
\]

\[
\begin{align*}
\theta & \quad (\theta \text{ a Patient or Theme}) \\
\downarrow & \\
\emptyset
\end{align*}
\]

Like the passive, this means that the suppressed argument is syntactically unexpressed. It
remains in a-structure, but is not mapped to an argument function (Bresnan and Moshi,
1990:169). In English, Theme Suppression accounts for unspecified object deletion in
monotransitive verbs (Bresnan and Moshi, 1990:170; Bresnan, 2001:310) as shown in (29):

\(^9\) Falk does not refer to Theme Suppression in his account of LMT, but it is certainly not incompatible with
his theory.
Mary was knitting a sweater.

‘Knit’ < Agent Patient>

- [Ø]
  - [-o]
  - [-r]

Theme suppression

- [-r]
  - SUBJ mapping

S

Mary was knitting.

However, a suppressed argument may be expressed syntactically as an ADJ, for example, a passive agent expressed as a by-phrase. Since suppressed arguments cannot bear argument functions such as OBL, the passive by-phrase is often labelled an ADJ even though it is a semantic argument.

Theme Suppression does not apply to all Theme arguments. Unspecified object deletion in a monotransitive verb is demonstrated in (29). However, unspecified object deletion is not allowed in asymmetrical object languages when there is a Beneficiary argument (Bresnan and Moshi, 1990:152).

(30) John handed Bill a drink.

Agent Ben Theme

(31) * John handed Bill.

Agent Beneficiary

The Revised Secondary Theme rule accounts for this restriction on Theme Suppression. When there are Theme and Beneficiary arguments, the Theme will not be assigned [-r]. The Theme which appears with a Beneficiary is assigned [+o] hence it is not an unmarked argument and is not able to be suppressed.

In fact, Theme Suppression cannot be used in English except when the Theme is the sole PATIENTLIKE role, i.e. the OBJ. This is because, if there were two PATIENTLIKE roles, the Theme would be assigned either [+o] or [-o] rather than [-r]. Therefore, a Theme which appears with another PATIENTLIKE argument cannot be suppressed, and this includes all the Themes of the verbs in this study. This means that no with-phrase is the result of Theme Suppression and this solution is rejected outright.

5.2.2.4 Lexical Specification for verb classes with a Beneficiary and a with-phrase

The Revised Secondary Theme rule allows a Theme which has a PATIENTLIKE coargument other than Beneficiary to take the [-o] classification, but this is not sufficient. The Themes of Present and Equip verbs do appear with a Beneficiary, but are still expressed as OBLs; that is, they are not expressed as OBJθ as the Revised Secondary Theme Rule would predict. In this
exceptional situation, it is necessary to specify which verbs take a *with*-phrase and hence must have the [-o] feature on the Theme.

The Revised Secondary Theme rule in (25) allows the Themes of *Give* verbs to be assigned [+o] and map to the function of OBJ as they should. However, the *with*-phrase Themes of *Present* and *Equip* verbs would also get the [+o] assignment because they are coarguments of a Beneficiary. These verb classes need a specification in the lexical entry that their Themes are [-o] and hence will map to OBL. This specification will preempt the action of the Revised Secondary Theme rule, because feature values cannot be changed, that is, [-o] cannot be changed to [+o].

The assignment of [-o] means that the Theme will map to an OBL when fully specified. This OBL is OBL\_THEME because the thematic role of the argument is Theme. OBL\_THEME bears the Theme case and this contributes the preposition *with* to the c-structure. Thus, lexical specification is the solution adopted for *Present* and *Equip* verbs, but see §5.2.4.1 and §5.2.4.2 for a more detailed account.

It is not an ideal solution to add a lexical specification to the *Present* and *Equip* verbs. The expression of the Theme as a *with*-phrase is not unique to these verbs, which suggests a regular mapping, not an idiosyncratic one. However, given that their meaning and a-structure is the same as the *Give* verbs, one or the other group must be specified as idiosyncratic. Since the double object construction is productive for verbs of transfer of possession, verbs with this structure are deemed standard and the diverging verbs are deemed idiosyncratic.

However, lexical specification is to be avoided for verb classes other than the *Present* and *Equip* classes. Verbs whose meanings are not related to transfer of possession should be able to employ other devices to distance themselves from the double object construction. Lexical specification should be considered a last resort for mapping a *with*-phrase to an OBL.

### 5.2.3 Matching the solutions to the *with*-phrases

It is already clear that some of the above solutions are more suited to some classes of verbs than others. Because of the different characteristics of each of these verb classes, none of the solutions offered is able to cater for all the different classes of *with*-phrase that are considered to be OBLs. The main criterion in applying the solutions is the θ-structure characteristics of the verbs in each class, and in fact it is the presence or absence of a Beneficiary argument which determines the optimal solution.

In the following sections, all the verb classes whose *with*-phrases are assumed to be OBL are allotted the best-fit solution for their features. This includes those in the Argument group and those in the Intermediate group (see Table 5.2). The difference between these two groups is that the Intermediate group often have optional Themes which are indicated by parentheses in θ-structure.
5.2.4 Verbs with the θ-structure < Agent Beneficiary Theme >

5.2.4.1 Present verbs

As noted previously, the Themes of Present verbs under LMT would be mapped to OBJ<sub>b</sub>, not OBL, because their thematic roles are identical to those of the Give verbs, which have the double object construction. Since the a-structures of Present and Give verbs are identical, their mapping to grammatical functions is also identical. This is an obvious flaw in LMT, which requires a solution.

In order to provide the solution, first I describe how LMT applies to the Give verbs to produce the dative alternation, and then, how other verbs in the same semantic field, the verbs of transfer of possession, meet problems in LMT.

The Dative Alternation

Falk (2001:104) analyses the dative alternation as follows. There are two lexical entries for the Give verbs, and they are related by a lexical redundancy rule. The two entries have different thematic roles in their θ-structures<sup>10</sup>, which map to different grammatical functions under LMT.

<table>
<thead>
<tr>
<th>θ-structure</th>
<th>Argument Group</th>
<th>Intermediate Group</th>
<th>Adjunct Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; Agent Beneficiary Theme &gt;</td>
<td>Present</td>
<td>Equip</td>
<td></td>
</tr>
<tr>
<td>&lt; Agent Patient Theme &gt;</td>
<td>Pelt</td>
<td>Load</td>
<td>Butter Hit Swat</td>
</tr>
<tr>
<td>&lt; Theme Theme &gt;</td>
<td>Mix</td>
<td>Fill</td>
<td>Illustrate Inscribe</td>
</tr>
<tr>
<td>&lt; Patient Theme &gt;</td>
<td>Swarm</td>
<td></td>
<td>Bulge</td>
</tr>
</tbody>
</table>

Table 5.2 The verb classes with with-phrase themes by θ-structure

<sup>10</sup> The use of two different a-structures with different thematic roles implies that there is some semantic distinction between the two forms of *give*. Many linguists have argued for this distinction (Green, 1974:Ch.3), but Baker (1997:89) claims that there is no significant difference in meaning. To Baker, the dative shift is a derivational process – a relation-changing process like the passive. In contrast, other alternations like the locative alternation do have distinct a-structures with different thematic roles. There are semantic differences in the expressions based on which argument is selected for the object function. This does not seem to be true for the dative shift verbs (*give, send, hand* etc).

LFG does not allow for derivation of grammatical functions, nor is there any morpholexical operation which can produce the two variants of the dative alternation. Morpholexical operations can only add or suppress arguments (Bresnan and Kanerva, 1989:26), but the dative alternation has three arguments in both variants.
Falk first presents the thematic roles for *give* as in (32) and (33) (Falk, 2001:104):

(32) ‘give₁’ < Agent Patient/Theme Goal >
    John gave a lemon to Bill.

(33) ‘give₂’ < Agent Recipient/Goal Theme >
    John gave Bill a lemon.

In later discussion, Falk analyses goal as a kind of Location at the lower end of the thematic hierarchy. He distinguishes between Patient and Theme, with Patient higher on the thematic hierarchy than Theme, and introduces the role of Beneficiary to subsume beneficiary and recipient. Falk’s thematic hierarchy with the revised role terms is shown in (34), repeated from (14):

(34) Thematic Hierarchy
    Agent > Patient/Beneficiary > Theme > Path/Location/Reference Object

Using the thematic hierarchy in (34), the thematic roles for the two variants of *give* are as in (35) and (36):

(35) ‘give₁’ < Agent Theme Location >
    John gave a lemon to Bill.

(36) ‘give₂’ < Agent Beneficiary Theme >
    John gave Bill a lemon.

The *to*-variant results from the perspective of the goal argument as a Location. From this θ-structure (see (35) above), mapping to SUBJ, OBJ, OBL is straightforward:

(37) ‘give₁’ < Agent, Theme, Location >
    [-o]  [-r]  [-o]
    [-r]  [+r]
    S  S/O  OBL
    He gave a lemon to Bill.

Despite there being three semantic arguments in a-structure, this is a monotransitive verb with the third argument in a PP. The verb *give* selects *to* as the preposition for the goal argument.

The θ-structure of the ditransitive *give₂* naturally also has three arguments as in (36). However, these arguments, in particular the goal, are viewed differently. The goal is now a
Beneficiary, and considered a PATIENTLIKE role. This variant of *give* emphasises that the Beneficiary is affected by the action described by the verb. Because of this interpretation we have two PATIENTLIKE roles, and the AOP blocks the assignment of two [-r] features as in (38).

In Falk’s analysis, the dative alternation, like the locative alternation, is an alternation in thematic roles and a-structures. Because the Beneficiary is categorised as PATIENTLIKE, it is able to be realised as OBJ.

(38) ‘give2’ < Agent, Beneficiary, Theme >

\[
\begin{array}{ccc}
[-\alpha] & [-r] & *[-r] & \text{AOP} \\
[-\alpha] & [-r] & [+\alpha] & \text{Secondary Theme rule} \\
[-r] & & [+r] \\
\end{array}
\]

He gave Bill a lemon.

**Verbs of Transfer of Possession**

The Revised Secondary Theme rule which assigns [+\alpha] to the second object is adequate for most verbs of transfer of possession. These are verbs which have the thematic roles Agent, Beneficiary and Theme. Only these show the double object construction. There are however four groups of transfer of possession verbs based on their syntactic frames, as shown in Table 5.3:

<table>
<thead>
<tr>
<th>Verb Type</th>
<th>Beneficiary Object Frame</th>
<th>Theme Object Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Give</em> verbs</td>
<td>SUBJ OBJ OBJ_0</td>
<td>SUBJ OBJ OBL_DAT</td>
</tr>
<tr>
<td><em>Present</em> verbs</td>
<td>SUBJ OBJ OBL_THEME</td>
<td>SUBJ OBJ OBL_DAT</td>
</tr>
<tr>
<td><em>Donate</em> verbs</td>
<td>none</td>
<td>SUBJ OBJ OBL_DAT</td>
</tr>
<tr>
<td><em>Equip</em> verbs</td>
<td>SUBJ OBJ OBL_THEME</td>
<td>none</td>
</tr>
</tbody>
</table>

Table 5.3 Transfer of Possession verbs by syntactic frames

These four groups of verbs pose a problem for most theories of syntax (Dryer, 1986; Larson, 1988; and others). *Present, give* and *donate* can hardly be separated by semantic features, yet they have different patterns of syntactic expression.

It could be assumed that the double object is the default in the field of transfer of possession because it is productive. New verbs in English which refer to transfer of possession or sending are naturally expressed with a double object:

(39) They fedexed/couriered us the documents.
The verbs which do not display the double object construction are the *Present* verbs, the *Equip* verbs and some Latinate verbs\(^\text{11}\) (*Donate* verbs) such as *contribute*, *deliver*, *distribute*, *donate*, *proffer*, *return*, *submit* and *transfer*. (See Levin, 1993: 46 for the full list). Note that the *Present* verbs themselves are all Latinate (See Appendix 1). This may be the historical source of the lack of a double object structure with these verbs. However, the Latinate restriction does have some exceptions and it is difficult to see how such a criterion could be formulated as a general rule applying at the level of a-structure. It seems that these verb classes must have a lexical specification on them. These verbs will have to be tagged in the lexicon with features that block the linking to double object.

**Lexical specification for Present verbs**

No additional clause to the Secondary Theme rule can target the *Present* verb class, because such a clause would also apply to the *Give* verbs and would prevent their Themes from mapping to OBJ\(_0\). The meaning of the *Present* verbs is too similar to that of the *Give* verbs for any adjustment of the Secondary Theme rule to apply only to the *Present* verbs and not the *Give* verbs.

The best solution for the *Present* verbs is that they be lexically specified as [-o]. Although the Themes of the *Present* verbs have the most argumentlike properties of all the *with*-phrases, they can only be mapped to OBL by means of lexical specification.

**5.2.4.2 Equip verbs**

The *Equip* verbs, like the *Give* verbs and *Present* verbs, have three arguments: an Agent, a Beneficiary and a Theme. However, the *Equip* verbs do not participate in any alternation, rather they always have the Beneficiary as the direct object.

The Beneficiary is always obligatory and always the OBJ, but the motion theme may be optional for some verbs (*reward*, *equip*, *compensate* and *arm*), however, it appears in a *with*-phrase whenever it is syntactically satisfied.

The lexical entry for the *Equip* verbs is like the *with* variant of the *Present* verbs except that the Theme is sometimes optional which is indicated by parentheses in \(\theta\)-structure (Bresnan, 2001:77):

\[
\text{(40) ‘Reward’ < Agent Beneficiary (Theme)>}
\]

\(^\text{11}\) Romance languages, from which Latinate verbs were borrowed, do not have a construction with the recipient as direct object (Falk, 2001:115).
Since the nature of the theme is partially incorporated in the semantics of the verb, the Theme is optional for reward, equip, compensate and arm.

The Equip verbs have the same problem as the Present verbs in that they are verbs of transfer of possession with a Beneficiary and a Theme argument. The Revised Secondary Theme Rule still leads these verbs to the double object construction with the Theme as a secondary object. The Present and Equip verbs cannot be distinguished from the Give verbs at the level of a-structure. Because of this problem with Beneficiary-Theme coarguments, lexical specification is the only option for the Equip verb class, as it is for the Present verbs.

\[
\text{(41) } \begin{array}{c}
\text{\textquote{Reward} < Agent \ Beneficiary \ (Theme) >} \\
\text{[-o] \ [-r] \ *[r] \ AOP} \\
\text{[-o] \ [-r] \ [-o] \ Lexical Specification} \\
\text{[-r] \ [+o] \ [+r] \ SUBJ and nonSUBJ Mapping} \\
\text{SUBJ \ OBJ \ OBL THEME} \\
\text{Jim rewarded the cat (with a fish).}
\end{array}
\]

The f-structure is as shown in Figure 5.6:

Figure 5.6 f-structure matrix for reward with theme OBL
5.2.5 Verbs with the θ-structure < Agent Patient Theme >

5.2.5.1 Pelt verbs

The *Pelt* verbs have three obligatory arguments: an agent, a target and a motion theme. They do not alternate; the target is always the OBJ and the Theme is expressed in a *with*-phrase. Although the target is often human, it cannot be characterised as a Beneficiary because it does not take possession of the Theme, nor is it a willing recipient (Goldberg, 1995:146). It might appear to be more like a Location (i.e. a goal) than a Beneficiary because these verbs are verbs of ballistic motion. However, the target is affected and the purpose of the motion is to affect the target (Dowty, 1991:596); that is why I analyse the target as having the thematic relation of Patient rather than Location.

The locative frame is not available for the *Pelt* verbs:

(42) * John pelted acorns at/to the squirrels

The locative frame is sanctioned by the semantic feature of a 'specific kind of motion of a theme' (Pinker, 1989:80). One would think that pelting, even more than throwing or chucking, is a specific kind of motion. The *with* variant on the other hand is sanctioned by a change of state in the direct object (target) argument (Pinker, 1989:80). On this view, the *Pelt* verbs are deemed to be change of state verbs and not manner of motion verbs. These verbs focus on the adversely affected state of the target.

With these three obligatory arguments, the θ-structure of *Pelt* is as follows:

(43) ‘Pelt’ < Agent Patient Theme >

Even though the second argument is a Patient rather than a Beneficiary, we still have two [-r] arguments in this a-structure, because Patient and Theme are both PATIENTLIKE roles. However, the second clause of the Revised Secondary Theme rule in (44) repeated from (25) assigns [-o] to the Theme argument, allowing it to map to OBL:

(44) Revised Secondary Theme Rule
   a. A Theme which appears with a Beneficiary argument is assigned the feature [+o].
   b. A Theme which appears with another Patientlike argument other than Beneficiary is assigned the feature [-o].

Since the *Pelt* verbs have no Beneficiary role, clause (b) applies.
The f-structure is shown in Figure 5.7:

```
SUBJ  | PRED | ‘Jim’ |
      | NUM  | SG    |
      | PERS | 3     |

PRED  | ‘pelt (S, O, OBL THEME OBJ)’ |

TENSE | PAST |

OBJ   | PRED | ‘Bill’ |
      | NUM  | SG    |
      | PERS | 3     |

OBL THEME |
          | CASE | THEME |
          | OBJ  | PRED | ‘acorns’ |
          | DEF  | -    |
          | NUM  | PL   |
```

Jim pelted Bill with acorns.

Figure 5.7 f-structure matrix for *pelt* with theme OBL

5.2.5.2 *Load* verbs

The *Load* verbs also have the argument structure of <Agent, Patient, Theme> in one variant, but they belong in the intermediate group. The *Load* verbs participate in the *Spray/Load* alternation, so either the Theme or the locative can be OBJ and the other will be expressed as a PP. With some verbs of this class, the third argument is optional, indicated by enclosing the argument in parentheses.

I propose two lexical entries for *plant* as follows:
I analyse the locative argument of Plant₁ as a Patient because it is ‘an entity which is acted on or affected’ (Falk, 2001:101) which in Falk’s system is a Patient.

(48) ‘Plant₁’ < Agent, Patient, (Theme) >

[-o] [-r] *[r] AOP
[-o] [-r] [-o] Revised Sec Theme rule
[-r] SUBJ Mapping
S S/O (OBL)

Jim planted the garden (with petunias).

The f-structure is as shown in Figure 5.8, and the OBL₀ is optional.

Figure 5.8 f-structure matrix for plant with semantic oblique complement OBL

But Plant₂ has an obligatory Theme. It is higher than Location on the thematic hierarchy, therefore the Theme is the OBJ.
The Location is [-o] and will be an OBL if it is expressed, or it may be omitted.

5.2.5.3 *Fill* verbs

The *Fill* verbs are non-alternating verbs; the container/location is always the OBJ and the theme, if expressed, is a *with*-phrase. The *Fill* verbs predicate a state or change of state of the container. I assume the motion theme is a semantic argument because it is conceptually necessary to achieving the state or change of state in the container described by the verb. Nevertheless, the theme argument is optional; therefore I represent it in parentheses in θ-structure:

(50) ‘Adorn’ < Agent Patient (Theme) >

If the optional theme is expressed as an argument, I propose that it map to the function OBL. The best way to effect this is by the Revised Secondary Theme Rule.

(51) ‘Adorn’ < Agent, Patient, Theme >

The f-structure for the *Fill* verbs is as shown in Figure 5.8, with the OBL optional.

5.2.6 Verbs with other θ-structures including a Theme

5.2.6.1 *Swarm* and *Bulge* verbs

The *Swarm* and *Bulge* verbs are quite different from all the other verb classes in this study. First, they have only two semantic arguments, the theme and the location. Second, they describe states in the *with* variant, therefore their themes are themes of location rather than motion themes. As explained in §4.1.3.1, the two variants of the *Swarm* verbs do not represent the same thematic
roles, so here I will look at the *with* variant only. The same solutions apply to the *Bulge* verbs, which only have the *with* variant.

I assume that the locative argument is a Patient because it is the locus of the effect, then there are two [-r] arguments in the a-structure. As usual, the theme being lower on the thematic hierarchy loses its [-r] feature. I propose the use of the second clause of the Revised Secondary Theme rule (25) for the *Pelt* verbs, to map the Theme to [-o].

\[(52)\]  
\[
\begin{array}{c|c|c|c}
\text{‘Bulge’} & \text{Patient,} & \text{Theme} & \text{AOP} \\
\text{[-r]} & *[\text{-r}] & \text{Revised Secondary Theme Rule} \\
\text{[-r]} & [\text{-o}] & \text{SUBJ and nonSUBJ mapping} \\
\text{[-o]} & [+r] & \\
\text{OBL} & \\
\end{array}
\]

The bag bulged with groceries.

Because the [-o] argument (the Theme) is not the thematically most prominent argument, it cannot map to the SUBJ function. The [-r] argument maps to SUBJ rather than OBJ and the [-o] argument maps to an OBL.

Despite their unique a-structure, the *Swarm* and *Bulge* verbs take the same solution as the other verb classes. The second clause of the Secondary Theme Rule allows the Themes of *Swarm* and *Bulge* verbs to be assigned [-o].

5.2.6.2 Group and Mix verbs

The *Group* and *Mix* verbs are unique, because not only are there two [-r] arguments in the a-structure, but they are both Themes\(^{12}\). The Revised Secondary Theme rule in (25) which assigns [-o] to a Theme could apply to either argument, thus producing an alternation (*Jim bundled the letters with the bills/ Jim bundled the bills with the letters*):

\[(53)\]  
\[
\begin{array}{c|c|c|c|c|c|c}
\text{‘Bundle’} & \text{Agent,} & \text{Theme,} & \text{Theme} & \text{AOP} \\
\text{[\text{-o}]} & \text{[\text{-r}]} & *[\text{-r}] & \\
\text{[-o]} & \text{[-r]} & [\text{-o}] & \text{Rev Sec Theme rule} \\
\text{[+o]} & \text{[+r]} & \text{nonSUBJ mapping} \\
\text{SUBJ} & \text{OBJ} & \text{OBL} & \\
\end{array}
\]

*Jim bundled the letters with the bills.*

\(^{12}\) The assignment of Theme to two different arguments may go against some requirement of uniqueness of theta-marking, and so an alternative analysis may be preferred (see Carlson, 1984). I will leave this for future research.
The f-structure is shown in Figure 5.9.

```
SUBJ   PRED   ‘Jim’
      NUM   SG
      PERS  3
PRED   ‘bundle (S, O, (OBL))’
TENSE  PAST
OBJ    PRED   ‘letters’
      DEF    +
      NUM    PL
OBL    PRED   ‘with <OBJ>’
      OBJ    PRED   ‘bills’
            DEF    +
            NUM    PL
Jim bundled the letters with the bills.
```

Figure 5.9 f-structure matrix for bundle

Either Theme argument can be the OBJ, but often there is only one Theme argument, if that argument is plural. So the second Theme argument is not syntactically obligatory. A simple way to render the second Theme optional is to have one of the Themes in parentheses:

(54)  < Agent Theme (Theme) >

If realised, the second theme would be an OBL under the Revised Secondary Theme rule in (44).

### 5.2.7 Summary of the Analysis of the Argument Type With-phrases

The with-phrases of the Present, Pelt, Swarm, Bulge, Group and Mix verbs are true arguments by the tests described in Chapter 4. As PP arguments, the most appropriate mapping is to the OBL function in LFG, and four different solutions are suggested to achieve this.

Theme Suppression as it turns out cannot be used for any of the verb classes whose with-phrases are arguments since Theme Suppression cannot apply to an a-structure with two
PATIENTLIKE arguments. All these verb classes have an argument structure with another
PATIENTLIKE argument as well as the Theme.

The Present and Equip verbs, because of their thematic structure which is identical to the
Give verbs, have no alternative but lexical specification in order to map their Themes to [-o].

The most widely applicable solution is the Revised Secondary Theme rule which maps
Themes to [-o]. This is the optimal solution for the Pelt, Swarm, Bulge, Group, Mix, Load and
Fill verb classes.

5.3 Summary

The with-phrases at issue have been analysed as shown in Table 5.4. The table shows the
allocation of solutions to mapping the motion theme to the syntax as a with-phrase. Apart from
the adjuncts, two solutions remain: lexical specification for the Present and Equip verbs, and the
Revised Secondary Theme Rule for the Pelt, Swarm, Bulge, Group, Mix, Load and Fill verbs.

A-structure is an abstraction away from thematic roles and does not contain the semantic
information necessary to distinguish between Give verbs, which have a double object
construction, and Present and Equip verbs which do not. No rule can solve this problem, the
simplest solution being to lexically specify the mapping to OBL by assigning the [-o] feature to
the Theme of each verb or verb class. Lexical specification is applied to the Theme arguments of
those verbs which also have a Beneficiary argument in order to obtain the mapping to a with-
phrase.

Pelt, Group, Mix, Swarm, Bulge, Load and Fill verbs are not verbs of transfer of possession
but they do have two [-r] arguments. The Revised Secondary Theme Rule assigns [-o] to a
Theme which appears with a PATIENTLIKE role which is not a Beneficiary.
<table>
<thead>
<tr>
<th>Lexical Specification</th>
<th>(&lt;\text{Agent, Beneficiary, Theme}&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present</strong></td>
<td>(&lt;\text{Agent, Beneficiary, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>([-o] \ [-r] \ [-o] \ [-r] \ [+o] \ [+r] \ [-o] \ [+r] \ [+o] \ [+r] \ [-o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBJ OBL THEME})</td>
</tr>
<tr>
<td><strong>Equip</strong></td>
<td>(&lt;\text{Agent, Beneficiary, (Theme)})</td>
</tr>
<tr>
<td></td>
<td>([-o] \ [-r] \ [+o] \ [+r] \ [-o] \ [+r] \ [-r] \ [+o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBJ (OBL THEME)})</td>
</tr>
<tr>
<td><strong>Revised Secondary Theme Rule</strong></td>
<td>(&lt;\text{Agent, Patient, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>(&lt;\text{Agent, Theme, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>(&lt;\text{Patient, Theme}&gt;)</td>
</tr>
<tr>
<td><strong>Pelt</strong></td>
<td>(&lt;\text{Agent, Patient, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>([-o] \ [-r] \ [-o] \ [+o] \ [+r] \ [-o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBJ OBL THEME})</td>
</tr>
<tr>
<td><strong>Load, Fill</strong></td>
<td>(&lt;\text{Agent, Patient, (Theme)})</td>
</tr>
<tr>
<td></td>
<td>([-o] \ [+r] \ [+o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBJ (OBL)})</td>
</tr>
<tr>
<td><strong>Group, Mix</strong></td>
<td>(&lt;\text{Agent, Theme, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>([-o] \ [+r] \ [+o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBJ OBL)})</td>
</tr>
<tr>
<td></td>
<td>(\text{John mixed the butter with the sugar})</td>
</tr>
<tr>
<td><strong>Swarm, Bulge</strong></td>
<td>(&lt;\text{Patient, Theme}&gt;)</td>
</tr>
<tr>
<td></td>
<td>([-r] \ [+o] \ [+r]) \ Monitoring and non-SUBJ Mapping</td>
</tr>
<tr>
<td></td>
<td>(\text{SUBJ OBL THEME)})</td>
</tr>
<tr>
<td><strong>Adjunct Mapping</strong></td>
<td>(\text{ADJ [PRED with&lt;(OBJ)&gt;]})</td>
</tr>
</tbody>
</table>

Table 5.4 Solutions for mapping *with*-phrases to grammatical functions for each verb class
5.4 Conclusion

The boundary between arguments and adjuncts is unclear, and this is especially true for with-phrases. As PPs their argument status is not immediately obvious, but as themes they are PATIENTLIKE and, being assigned [-r], may alternate as subjects or objects, making them probable arguments. LFG has the argument function OBL to represent PPs which are arguments. However, in practice, under current versions of LMT, it is impossible to obtain the mapping of a motion theme with-phrase to the OBL function except by lexical specification. This is due to the Theme being [-r]. A motion theme with-phrase can map to an ADJ by leaving it out of the a-structure altogether, but Chapter 4 has shown that many motion theme with-phrases have argument properties and the assignment of the ADJ function does not reflect this.

The second clause of the Revised Secondary Theme Rule captures the generalisation that many themes of motion are mapped to PPs with the preposition with. The modified first clause of the Secondary Theme Rule is necessary to restrict the assignment of [+o]. Then a further clause is required to assign the alternate feature [-o] to the Themes which occur as with-phrases. It could be objected that such a rule is stipulative and not explanatory, but unless more features are introduced to distinguish between the two kinds of Theme, such stipulations are the only way to map Themes to OBLs.

The assignment of [+o] to all themes which are not primary objects is not correct for English and therefore the revision of the Secondary Theme rule can be seen as a necessary modification to the Lexical Mapping Theory. In English, only the verbs in one semantic field display the double object frame, while others like verbs of putting, removing and change of state always have the third argument as a PP. Although LMT does allocate [-o] to the third argument in the majority of cases, it cannot cope with themes, because it assumes that all themes which are not subjects or objects are secondary objects. However, some themes cannot be secondary objects, not only outside the semantic field of transfer of possession, but also within it.

An adequate theory of syntax, and a theory of thematic-structure to f-structure mapping, must be able to account for this, and therefore a means of assigning [-o] to themes as well as locatives and instruments is necessary. I propose the Revised Secondary Theme Rule as one way to achieve this.
6 Conclusion

In this thesis, I have examined *with*-phrases that realise themes of motion and location. These themes are of interest because they present a problem for analysis in most theoretical frameworks, since they are not expressed as direct objects as themes are normally assumed to be, but instead are expressed as PPs. PPs are generally considered to be adjuncts, and *with*-phrases commonly occur as instrumental adjuncts, and comitatives, which are also adjuncts. In contrast, the *with*-phrases at issue, which express themes, have some argumentlike properties in that some of them are obligatory and some alternate as objects or subjects.

These *with*-phrases have not been much studied in the literature, and their status as arguments is not well recognised, although RRG has an interesting discussion of *with*-phrases as ‘displaced’ Actors or Undergoers, the latter category pertaining to themes.

The empirical evidence presented in Chapter 4 showed that at least three types of *with*-phrase need to be accounted for: an argument group, an adjunct group and an intermediate group. However, not all theories of grammatical relations are equipped to handle this fine gradation of argument types. The analysis of *with*-phrases in three theoretical frameworks was the subject of Chapter 3.

RG is able to express the ‘displaced’ status of *with*-phrase themes, because of its distinction between initial and revalued grammatical relations. But RG does not distinguish between argument and adjunct PPs, as all PPs (except the to-object) are analysed as nonterms, or in some analyses as obliques. PPs as nonterms are in the same category as optional and unselected adjuncts, although nonterms can be further distinguished as chômeurs, which are revalued from terms, and obliques. Some analyses in RG recognise themes as chômeurs, but even the chômeur relation does not indicate that a PP is a syntactic argument.

RRG has the most comprehensive account of *with*-phrases, including themes. RRG predicts that a theme is realised as a *with*-phrase if it is not a direct object. However, RRG, like RG, fails to distinguish between argument and adjunct type *with*-phrases, as all themes are (probably) semantic arguments, and as such will be realised as core arguments. Some of these themes will be PPs and some will be NP objects, but all are arguments in RRG.

LFG, on the other hand, is able to distinguish two kinds of PP, ADJ which are adjuncts, and OBL which are oblique arguments. An OBL may be marked as optional in the lexical entry, producing the further distinction between optional and obligatory argument *with*-phrases. The third category of *with*-phrase, the adjunct type is covered by the ADJ function.

However, the potential to distinguish OBL and ADJ themes was previously unrealised, since Lexical Mapping Theory in existing versions of LFG did not predict the mapping of a theme to
an OBL function. LMT assigns the feature [-r] to most themes, allowing them to map to SUBJ or OBJ only.

The occurrence of some themes as outer objects in the double object construction requires an alternative assignment of [+o] for themes, allowing them to map to the secondary object function, OBJb. The existing mapping for secondary themes assigns [+o] to all themes which occur with another PATIENTLIKE role. This mapping is an overgeneralisation and predicts the double object construction for all verbs which have two PATIENTLIKE arguments, contrary to the evidence of several verb classes, such as Present verbs and Pelt verbs, which express their secondary themes as with-phrases.

Based on the theory of Falk (2001), I have proposed two main modifications to the Lexical Mapping Theory for LFG. The first is a restriction on the assignment of [+o] to Themes, such that a Theme is only assigned this feature if it is a coargument of a Beneficiary. This restricts the double object construction to verbs of transfer of possession, as is correct for English. This restriction still leaves the problem of a few exceptional verbs which lexicalise a transfer of possession but express the theme as a with-phrase instead of a second object. These verbs will be lexically specified for an OBL theme, and this specification is necessary regardless of how the mapping of secondary themes is dictated.

Neither a Theme which is assigned [-r] nor a secondary theme which is assigned [+o] can map to the OBL function which is expressed as a PP. Therefore the secondary theme mapping rule must have an additional clause which assigns [-o] as an alternative feature for a Theme. The Revised Secondary Theme Rule proposed in this thesis assigns [-o] to a Theme which appears with a PATIENTLIKE argument other than a Beneficiary. This allows for an OBL argument for verbs such as the Pelt verbs and Fill verbs rather than a second object.

The second modification proposed in this thesis is a new function of the type OBL\_CASE, which is a pure case marking function realised as a PP. Other case-marking functions of this type include the to-object, described as OBL\_DAT by Bresnan (2001). The case-marking OBL marks an argument of the verb and does not itself take an object. Since the obligatory with-phrases of verbs like the Present verbs and Pelt verbs are arguments of the verb, the preposition is a case marker only. I suggest the name OBL\_THEME for the function which is realised as a with-phrase argument in English. Themes which are assigned [-o] by the second clause of the Revised Secondary Theme Rule map to OBL\_THEME.

The Revised Secondary Theme Rule requires only a slight modification of currently used principles of assigning [+o] which ignore the possibility of a theme which is a with-phrase. The existence of many and regular with-phrase themes necessitates the revision of the practice of mapping all themes which have PATIENTLIKE coarguments as OBJb. By specifying the assignment of [+o] only to Themes which are coarguments of Beneficiaries, the mapping to OBJb
can be restricted to the themes of verbs of transfer of possession. With this modification, the Revised Secondary Theme Rule now accounts for a wider range of ternary verbs.
Appendix 1: Verb classes based on classes in Levin (1993)

1. Present Verbs = Verbs of Fulfilling (13.4.1)
   credit entrust furnish issue leave present provide serve supply trust

2. Load verbs = Spray/Load verbs (9.7)
   brush cram crowd cultivate dab daub drape drizzle dust hang heap inject jam load mound pack
   pile plant plaster prick pump rub scatter seed set settle sew shower slather smear smudge sow
   spatter splash splatter spray spread sprinkle spritz squirt stack stick stock strew string stuff swab
   vest wash wrap

3. Hit verbs = Hit verbs (18.1) and Poke verbs (19)
   bang bash batter beat bump butt dash drum hammer hit kick knock lash pound rap slap smack
   smash strike tamp tap thump thwack whack
   dig jab pierce poke prick stick

4. Inscribe verbs = Verbs of Image Impression (25.1)
   Appliqué emboss embroider engrave etch imprint incise inscribe mark paint sign stamp tattoo

5. Mix verbs (a subset of 22.1 + Amalgamate verbs (22.2))
   blend combine connect cream fuse join link merge mingle mix pool
   affiliate alternate amalgamate associate coalesce confederate conjoin consolidate contrast
   correlate criss-cross engage entangle entwine harmonize incorporate integrate interchange
   interconnect interlace interlink interlock intermingle interrelate intersperse intertwine interweave
   introduce marry mate oppose pair rhyme team total unify unite wed
   intransitive only: coincide

6. Group verbs = a subset of Shake verbs (22.3)
   band bind bundle cluster collate compare confuse fuse gather group herd lump mass muddle
   package pair beat jumble roll scramble shake shuffle stir whip whisk

7. Swarm verbs
   7a. Swarm verbs (=47.5.1)
   abound bustle crawl creep hop run swarm swim teem throng
7b. *Echo* verbs = 47.4

echo resonate resound reverberate sound

7c. *Blossom* verbs a subset of 47.2

billow bloom blossom cascade effervesce ferment fester fizz flow flower foam froth ripple smoke
smoulder sprout stream trickle

7d. *Flutter* verbs = 47.3

bob bow creep dance flap float flutter oscillate pulsate quake quiver rock rotate shake stir sway
swirl throb tremble undulate vibrate waft wave waver wiggle wobble writhe

7e. *Sparkle* Verbs (= 43.1)

beam, blink, burn, blaze, flame, flare, flash, flicker, glare, gleam, glimmer, glint, glisten, glitter,
glow, incandesce, scintillate, shimmer, shine, sparkle, twinkle

7f. *Buzz* verbs (= 43.2)

babble bang beat beep bellow blare blast boom bubble burble burr buzz chatter chime chink
chitter chug clack clang clank clap clash clatter click clink clomp clump clunk crack crackle
crash creak crepitate crunch cry ding dong explode fizz fizzle groan growl gurgle hiss hoot howl
hum jangle jingle knell knock lilt moan murmur patter peal ping pink pipe plink plonk plunk
pop purr putter rap rasp rattle ring roar roll rumble rustle scream screech shriek shrill sing sizzle
snap splash splutter sputter squawk squeak squeal squelch strike swish swoosh thrum thud thump
thunder thunk tick ting tinkle toll toot tootle trill trumpet twang ululate vroom wail wheeze whine
whir whisper whoosh whump zing

7g. *Ooze* verbs (= a subset of 43.4)

belch bleed bubble dribble drip drool gush leak ooze radiate seep stream sweat

8. *Fill* verbs (= 9.8)

adorn anoint bandage bathe bestrew bind blanket block blot bombard carpet choke cloak clog
clotter coat contaminate cover dam dapple deck decorate deluge dirty dot douse drench edge
embellish emblazon encircle encrust endow enrich entangle face festoon fill fleck flood frame
garland garnish imbue impregnate infect inlay interlace interleave intersperse interweave
inundate lard lash line litter mask mottle ornament pad pave plate plug pollute replenish
repopulate riddle ring ripple robe saturate season shroud smoother soak soil speckle splotch spot
staff stain stipple stud suffuse surround swaddle swathe taint tile trim veil vein wreath

9. *Illustrate* verbs (= 25.3)

address adorn autograph brand date decorate embellish endorse illuminate illustrate initial label
letter monogram ornament tag
10. *Equip* verbs (=13.4.2)
arm burden charge compensate equip invest ply regale reward saddle task

11. *Swat* verbs (=18.2 and Spank verbs =18.3)
bite claw paw peck punch scratch shoot slug stab swat swipe
belt birch bludgeon bonk brain cane clobber club conk cosh cudgel cuff flog knife paddle
paddywhack pummel sock spank strap thrash truncheon wallop whip whisk

12. *Pelt* verbs (=17.2)
bombard, buffet, pelt, shower, stone

13. *Butter* verbs (=9.9)
asphalt bait blanket blindfold board bread brick bridle bronze butter buttonhole cap carpet caulk
chrome cloak cork crown diaper drug feather fence flour forest frame fuel gag garland glove
graffiti gravel grease groove halter harness heel ink label leash leaven lipstick mantle mulch
muzzle nickel oil ornament panel paper parquet patch pepper perfume pitch plank plaster poison
polish pomade poster postmark powder putty robe roof rosin rouge rut saddle salt salve sand
seed sequin shawl shingle shoe shutter silver slate slipcover sod sole spice stain starch stopper
stress string stucco sugar sulphur tag tar tarmac tassel thatch ticket tile turf veil veneer wallpaper
water wax whitewash wreathe yoke zipcode
colour distemper dye enamel glaze japan lacquer paint shellac spraypaint stain tint varnish

14. *Bulge* verbs (=47.5.3)
bristle bulge seethe
References


