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The Division of Labour between the Locative Inversion Construction and the Existential Constructions in English: Perspective and Fictive Paths

Edward (Qi) Li

李奇

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School of Philosophy, Psychology, and Language Sciences

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Lay Summary

In the English language, when we want to tell our communication partners that something is somewhere, say, ‘a bike behind a tree’, we can use at least three different ways to say it.

1. There is a bike behind the tree.

2. Behind the tree is a bike.

3. Behind the tree there is a bike.

All of these express the same basic meaning of a bike being located behind a tree. However, if we have the expressions like (1), which is the most frequent one, why would the language also provide the other two, seemingly more complicated ways to express the same meaning? It is obvious that these three sentences have distinct structures, which in this research we call different Constructions. The first sentence is called the *There*-existential Construction; the second one is called the Locative Inversion Construction; for the third one, there is no agreed name in literature, so we term it the Hybrid Construction. In this project, I will focus on the reasons behind the choices of these other ways of expressing the same event. Also, not every verb can be used in those sentences; for example, we will probably not hear people say, ‘Behind the tree smiles/laughs a boy’. If some verbs are not allowed in certain constructions, what are the reasons behind the restrictions? Therefore, I will also focus on the verbs that can appear in these constructions to see the deeper mechanisms that determine whether a verb is allowed or not.

Another important notion to introduce is called Information Structure, a sub-field of Pragmatics, i.e., how context influences the interpretation of meaning in language. In the English language (and many other human languages), we tend to naturally put information that is more familiar to the hearers earlier in a sentence, so that the hearer can understand our sentences more quickly and easily. This piece of information is what we call ‘old information’. In comparison, we tend to put the key points of what we aim to express later in a sentence, so that the hearer is well prepared with enough background information/story to understand this ‘new information’.

Knowing the concepts of Construction and Information Structure will help us understand the research in this thesis. We use an approach called Construction Grammar, which argues that language is a huge network of constructions at different levels, from morphemes, e.g., -ment (for noun), to words, and more higher levels such as idioms, phrases, and different sentence structures such as the three constructions under discussion in this project. Construction Grammar can also deal with Information Structure, including cases where there might be a preference for positioning information differently – say, 'new information' first, then 'old information'.

This project starts from the Information Structure of the three constructions and then tries to figure out how those information structure properties affect the use of them. Then it finds out that the verbs in these constructions show very interestingly unique characteristics, especially in the locative inversion construction. Many researchers have argued that those verbs belong to some specific categories of verbs. But others argue that what determines whether a verb "fits" the construction is the construction itself, which has a meaning of its own, and can force verbs to "fit" by subtly altering what aspect of their meaning the hearer goes for in order to interpret the utterance. However, we found that none of the current theories offered by the literature can account for all the verbs that are found with this construction in real-life language use (i.e., in large collections of written and spoken texts).

To have a better understanding of this issue, this thesis investigated a large number of natural occurrences of these three constructions from the British National Corpus. To solve the verb problem, this thesis found the Windowing of Attention theory in cognitive linguistics the most helpful. This theory proposes that when we look at a moving object, our attention is not evenly distributed; instead, we are especially interested in the path of the movement rather than in any of the other properties of the motion. In this process, our perspective, i.e., how and from where we see the object, also matters in many ways. We adopted a concept called 'fictive path' to account for the various classes of verbs in locative inversion. Lastly, by using big corpora and Python, we also investigated the distribution of these constructions in different genres to get insights into their contextual environments. The natural "home" of locative inversion was found to be the genre of fiction, where it was

used to enhance the vividness of descriptions by providing the illusion that the reader is placed right in the middle of the action.

This thesis shows how usage-based models and functional approaches with data from big corpora and data mining methods such as Python can significantly help us to have a better understanding of the subtleties of language use.

Abstract

This thesis aims to explore the three closely related constructions in English, namely, existential *there*, locative inversion and locative Inversion + *there* + NP (hybrid construction for short), drawing on data from British National Corpus.

(1) Existential *there*: There is a boy behind the tree.

(2) Locative inversion: Behind the tree is a boy.

(3) Hybrid construction: Behind the tree there is a boy.

Although the verb in all three constructions tends to be BE, the locative inversion construction in particular is found with a great variety of verbs in the Corpus, which cannot easily be captured by identifying them as belonging to a known subset of verbs, like for instance unaccusative verbs. This means that the felicitous selection of the verb cannot be (fully) specified by the lexicon, so that instances of the construction in language use cannot be generated by projection from the lexicon. Although the constructions all seem to do a similar job in that they introduce a new entity into the discourse, the locative inversion construction differs from the other two in being much more limited in its distribution to specific genres, particularly fiction. It is for these reasons that the chapters in this thesis progressively focus on this construction. The early chapters propose the hypothesis that the use of locative inversion pre-supposes that the scene is "surveyable", which limits the situations in which it is felicitous. To account for the fact that the construction as a whole appears to coerce a specific reading of the verb, subsequent chapters focus on different frameworks, such as Sign-based Construction Grammar, Goldberg's Construction Grammar, and Talmy's Cognitive Semantics, with the latter's theory of windowing of attention (Talmy 2000) turning out to be the most helpful in terms of accounting for all the verbs used with locative inversion in the corpus, even the "outliers" that are only found once or twice. These verbs are felicitous due to the fact that they combine with the preverbal prepositional phrase to create what Talmy calls "fictive paths". The fictive path coerces a focus on an aspect of the verb that is often not part of its core semantics but refers to the existence, emergence or appearance of an entity. The fact that locative inversion is found to be strongly associated with fiction is in accordance with its discourse function as a narrative

strategy, to force the reader's gaze along a fictive path in order to take a particular perspective that helps to visualize the scene. The conclusion is that a constructional view and usage-based approach are best able to account for the diversity of the verbs occurring in locative inversion; identifying the mechanisms behind creative usages demonstrates that language use is a very dynamic process.

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Growing up in a remote village in one of the most famously underprivileged towns in China, the idea of coming to Edinburgh would never have occurred to me as a child. To be honest, I have never even heard of Edinburgh, let alone this university, until I was almost finished with my undergraduate degree in China. My journey as a student at Edinburgh University is vastly different from that of most students here, especially in terms of family background, financial capability, and social resources. Due to this, I had to spend a lot of time and energy working part time jobs, even up until one month before submitting this thesis. The result of this is that I have been constantly distracted from my studies throughout the entire PhD journey. The global pandemic worsened this situation, making it the most challenging time of my life. I almost got defeated by all the stress with financial problems, loneliness, and isolation. Looking back, I do not know how I managed to get through that time, but I am so glad that I did not give up, and now, I am finally finished with this journey.

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1. Introduction

This project aims to investigate three closely related constructions whose fundamental difference lies in their information structure. This project will embark on the journey of exploring the subtle differences of the three constructions, starting from their information structure but increasingly focusing on one aspect, i.e., what verbs they select. As the investigation proceeds, the spotlight will increasingly be on the locative inversion construction, the most interesting construction among the three of them. In the following sections, I will give a brief introduction of the key concepts involved in this thesis, and I will outline the structure of the thesis at the end of this chapter.

1.1. Information structure

To begin with, we will first look at information structure and see how it affects our language use together with other factors. Information Structure (IS) examines how information is organised to address the immediate communication needs of speakers (Chafe, 1976). In English, as in many other languages, information typically flows from known (or given) to unknown (or new), with new information ideally positioned at the end of a clause for emphasis. English has adopted a relatively fixed word order where the syntactic roles reflect IS status: given information is usually assigned to the subject, while new information appears in the object or complement (see, e.g., Downing & Locke, 1995). In tandem with the loss of freer word orders (such as a version of V2), special constructions emerged in Early Modern English as "escape hatches" to maintain IS requirements; these constructions, e.g., subject-verb inversion, preposing, cleft constructions and cross-linguistically rare passives, have accordingly been labelled "Information-Packaging Constructions" in Ward, Birner and Huddleston (2002).

One such "escape hatch" is the existential clause with dummy *there*. This clause provides for cases where the subject encodes new information, as it allows the subject, *a mysterious hooded figure* in (1), to appear in end-focus position:

(1) There appeared a mysterious hooded figure in the grounds.

The dummy pronoun *there* in such constructions has no meaning and does not refer back to a referent or a location, but syntactic tests, like its appearance in tag questions (*there was a mysterious hooded figure, wasn't there?*) show that it is the syntactic subject. The existential *there*-construction has a close counterpart in the locative inversion construction, which becomes clear if we add a place adverbial in initial position (Biber et al., 1999):

(2) a. Out of nowhere there appeared a mysterious hooded figure.

b. Out of nowhere appeared a mysterious hooded figure.

Ward, Birner and Huddleston (2002, p. 1391) suggest, without dispute, that the "dummy *there*" originates from the locative *there*, which has lost its original locative significance and undergone reanalysis as a pronoun; it is always unstressed and has a weak form: /ðər/. Bolinger (1977) suggests, more controversially, that existential *there* still conveys the meaning of location in an abstract way. Ward & Birner (2006) show that the line between *there* as a referential adverb and as a dummy pronoun is not always easy to draw:

(3) In Ireland's County Limerick, near the River Shannon, there is a quiet little suburb by the name of Garryowen, which means "Garden of Owen". (Ward & Birner, 2006; Brown Corpus).

They argue that *there* in (3) can be interpreted both ways, as the dummy *there* and as coreferential with the location in the initial adverbial. As (3) is an example of the hybrid construction as in (2a), this makes the status of *there* in the hybrid construction very relevant to the investigation.

Bolinger (1977) explicitly contrasts the existential *there*-construction with the locative inversion construction, claiming that the function of existential *there* is to bring something into awareness, while the locative inversion construction is to bring something to the physical stage. In terms of Erteschik-Shir (1997), the initial adverbial in (2a-b) can be considered a stage topic, indicating the time or place of the discourse; in (1), without an initial adverbial, there is nothing to ground the information and the effect is that the entire sentence is in focus; *there* in effect defines a new "stage". However, this does not explain existential *there* in a "hybrid" sentence like (2a) or (3), where there is a stage already.

The present study will try to come to a more fine-grained description of the two constructions in (1) and (2b). Initially I wanted to focus on the "hybrid" construction as in (2a), in order to investigate its respective functions. Apart from the presence or absence of *there*, there are three parts to focus on: (i) the nature of the verb, said to be mainly copular BE in the existential *there*-construction, and a variety of verbs of movement and position, like *hang, march, run, sit, stoop, swim, walk,* in the locative inversion construction (Biber et al., 1999: 954), although (4a-b) below demonstrate that felicitousness does not only depend on using the correct verb; suggesting that some more intricate mechanism plays a role.

(4) a. My neighbours have a backyard. Through it runs a string of beautiful Japanese lanterns.

b. ? My neighbours have a backyard. Through it run my kids. (Huddleston & Pullum, 2002, p. 1376)

The other two parts are: (ii) What are the similarities in the verbs in the three constructions? (iii) What are the distributions of genres of these constructions?

As the investigation proceeded, the hybrid construction proved to be similar to the existential *there*-construction, while locative inversion was the more puzzling and hence more interesting one. The verbs it selects have attracted a lot of attention in the literature. To account for the occurrence of novel verbs from a range of different semantic classes, many theories have been proposed, ranging from projectionist syntax (where the verbs are selected from the lexicon because they belong to a certain class, typically said to be unaccusative) to pure pragmatics (where the fact that not all verbs encountered in the construction are unaccusative is argued to suggest that the selection of the verbs in this construction is not projected from the lexicon but somehow fitting in because of the construction's pragmatics). Nonetheless, none of them can predict which verbs can be found in naturally occurring instances of the construction. In order to provide a new perspective to solve this problem, this thesis adopts the Windowing of Attention theory by Talmy (2000a), proposing that there are paths involved in the configuration of PP in locative inversion, as well as in the other two constructions, and that it is the properties of those paths that are responsible for whether or not verbs are felicitous in these constructions.

This is especially important for verbs that are found with locative inversion with extremely low frequencies in natural language corpora, because these are bound to be less obvious, "outlier" selections. I hope to show that Talmy's theory also holds for these verbs.

1.2. Windowing of attention theory

When people are asked to describe an object, the first thing they will do is to make it perceptually prominent in comparison with the rest of the environment. In cognitive linguistics, the object that needs to be identified is referred to as the **figure** and the immediate environment in which it is located is called the **ground**, and the way that the figure moves over the ground is called **path**; these concepts were first introduced by Talmy (1978).

The concept of the figure, ground and path is important in locative relations. Consider for example, (5):

(5) The crate fell out of the plane through the air into the ocean.

(Ungerer & Schmid, 2006, p. 222)

The *crate* is the figure and the *ocean* is the ground. The figure is the perceptually prominent entity that is standing out from the ground, and it moves along a path, which could be further categorised into open, closed or fictive paths. For open paths, the figure moves along the path from a beginning point to an ending point and those two points are at different locations, such as illustrated in (5).

In contrast, in a closed path, it is imagined that the starting point and ending point share the same location, for example, in (6); the person who does this action might start out from the table and go to open the fridge and then return to the point where he/she started out (Ungerer & Schmid, 2006, p. 223).

(6) Get the milk out of the fridge.

(Ungerer & Schmid, 2006, p. 223; Talmy, 2000a, p. 268)

According to Talmy's (2000a, p. 257-309) windowing of attention theory, the attention (of the potential observer) can be divided into several stages through the path, depending on the event itself. In general, there are three relevant positions/points in this process of attention: initial, medial and final windowing (Talmy, 2000a, p. 265). In an example like (7), there are only the two points *Les Baraques* and *Dover*, so only two explicit specifications of the path component:

(7) Louis flew **from Les Baraques to Dover**.

(Adapted from Ungerer & Schmid, 2006, p. 221)

By contrast, in (8), there are three positions that could be windowed (Ungerer & Schmid, 2006, p. 221-224):

(8) The crate that was in the aircraft's cargo bay fell **out of the airplane through the air into the ocean.**

(Ungerer & Schmid, 2006, p. 222)

Figures do not have to move; nevertheless, Talmy's "window of attention" theory (2000a, p. 257-309) suggests that locative relations are normally understood to have an imaginary (fictive) path different from open path and closed path (also see Ungerer & Schmid, 2006, p. 218-229), for example, in (9):

(9) It is leaning against the lamppost across the street from the bakery.

(Ungerer & Schmid, 2006, p. 225)

Imagine a scenario where the speaker has to pinpoint the place of her bike to her friend; she has to describe the access to the bike by directing her friend's mind (attention) to the reference point (*the bakery*), and then build a fictive path *across the street*. The locative relations in example (9) are understood as unchanged through time, in other words, the locative relations of the bike and the lamppost, the street, and the bakery are static, and do not change under the current discourse, although the attention points of the observer have changed in the course of this event.

Other examples that denote the fictive path include prepositions like 'over', 'up', 'out', which also denote the same sense of static locative relations (Ungerer & Schmid, 2006, p. 224-225), see (10):

(10) A fine oak staircase with barley sugar bannisters leads out of the stone flagged hall and the south-east facing sitting-room is panelled. **Over the fireplace is a piece of older panelling, probably rescued from the earlier frontage.** It bears the initials R.P. 1604, which stand for Ralph Piggot, whose family arrived in the parish at about this time.

(BNC AB4 845)

The figure in (10), *the panelling*, does not move during this event; it has a fictive path over the fireplace, because it is the attention of the potential observer or the hearer that is moving. Fictive motion cannot only be denoted by the verb *be* but also by many verbs of other categories. The concept of fictive motion ensures that the locative inversion construction manages to encode the discourse function of presenting a new entity within the referred location. When the fictive path is not in play in any obvious way, as is usually the case with novel, "outlier" verbs, the usual mechanism that makes them felicitous in the construction is **coercion** in that readers/hearers will be coerced to focus on a single aspect that is not normally part of the core meaning of the verb: the sense of emerging/appearing/existing.

1.3. Coercion

To cope with the phenomenon of a mismatch between "core" verbal meanings and their syntactic patterns, the notion of coercion is useful to bring to the fore the fluidity of verbal meanings. *Coercion* has been borrowed from artificial intelligence (Levinson, 2000, p. 246; De Swart, 1998, p. 360; Ziegeler, 2007b). Coercion is discussed widely in the field of semantics, pragmatics and Construction Grammar in recent years (see Lauwers & Willems, 2011; Audring & Booij, 2016; Goldberg, 2019).

The three most discussed types of coercion in the literature are nominal coercion, complement (or subject) coercion, and aspectual coercion. Consider the examples in (11-

13), which represent these different types of coercion, and they are analysed by scholars from these different perspectives.

Nominal coercion (e.g., Michaelis, 2003a).

(11) She had a beer.

(Ziegeler, 2007b)

In (11), by adding the indefinite article, the meaning of the noun beer shifts from "uncountable mass" to "a portion", which is called type-shifting in literature (Michaelis 2003, 2004). As suggested by Michaelis (2003a; 2004) and Ziegeler (2007b), the reason for this type could be related to the historical development of the indefinite determiner and the process of grammaticalisation (Hopper, 1987, p. 143).

Complement or subject coercion (e.g., Pustejovsky, p. 1995).

(12) John began the book.

In (12), the meaning of the sentence is either *John began reading a book* or *John began writing a book*, which talks about the event rather than the object itself. In this case, it is suggested that the mechanism behind this type of coercion is related to cognitive processes of metonymy; in other words, the speaker/writer uses the object for an action, to refer to the event of reading/writing a book (Pustejovsky, 1995). Nevertheless, the underlying meaning of the sentence depends largely on the context. If *John* in (12) is working in a publishing house and his usual activity is binding books, then this sentence would be interpreted accordingly (Ziegeler, 2007b).

Aspectual coercion is triggered by aspectual conflict; e.g., The English progressive (Michaelis 2004).

(13) She was winning the race when she got tripped.

(Ziegeler, 2007b)

In (13), stative verbs such as *win* or *believe* are not compatible with the progressive, which conventionally takes activity-verbs. In this sentence, the meaning that is coerced might imply that the speaker is not talking about the fact that *she* wins; instead, the speaker is making a prediction about the race at the moment of utterance that *she* is highly likely to win.

This thesis will draw on all the concepts briefly introduced here, along with the data collected from the BNC through various retrieval interfaces, to understand the nuances of the three constructions. This thesis will initially focus on the functions of hybrid construction and see the differences between the hybrid construction and locative inversion. As the research progresses, I discovered that the verbs in locative inversion exhibit the most intriguing features, so the emphasis of this thesis will shift to the verbs in locative inversion.

To conduct a detailed investigation of the properties of these verbs, I will mine data from the BNC, which I will justify in Chapter 3, and the results will be presented in Chapter 6. This thesis will explore relevant theories and concepts such as Coercion, Frame Semantics, Construction Grammar, Sign-based Construction Grammar, Perspective and most importantly, Windowing of Attention, to uncover the mechanisms behind the creative use of verbs in locative inversion. Finally, to provide a well-rounded overview of the three constructions, I will gather more data regarding the verbs and genres of these constructions from the BNC to reveal differences in these aspects.

1.4. Methodology and data

The development of corpora like the British National Corpus provides a wealth of material to study the form and function of the three constructions, and to provide in-depth analyses with the help of a statistical perspective. Usage-corpora like the BNC should make a detailed investigation possible of the usage of the two constructions, and the hybrid, not only with respect to linguistic form and function but also with respect to register and genre. More interestingly, by employing a computer programming language Python, the genres and verbs are easily extracted from the huge database of naturally occurring languages. It turned out that each data set extracted from the BNC required a different methodology,

which is why each set, and its methodology, will be introduced separately, in the chapters where the data sets are discussed. The choice of the BNC as corpus will be justified in a separate methodology chapter.

1.5. Structure of the thesis

Chapter 2 interprets the literature regarding these three constructions, from their information structure properties to the verbs in them, covering topics such as information status of the postverbal NP, the felicity of verbs, subjecthood as well as the problem with PP in locative inversion.

Chapter 3 provides the overall methodology of the thesis and the reasons for choosing BNC as the corpus of the database. It also points out the benefits of employing a corpus for the usage-based research and how it shows the accurate picture of creative language use.

Chapter 4 presents a preliminary study about the nuance between locative inversion and hybrid construction as they seem to have the closest structures among the three of them. It proposes a surveyability hypothesis to explain the different uses of the two constructions.

Chapter 5 explores the concept of coercion which is defined as a mismatch between a syntactic structure and smaller linguistic units such as lexical items, and demonstrates how this phenomenon can help us understand the infrequent, "outlier" verbs in locative inversion and in the other constructions.

Chapter 6 shows what verbs are found in locative inversion in the BNC and how, contrary to claims made in the literature, they cannot be made to fit into particular categories. The "outlier" verbs found in this data mining which were not listed in the previous literature are of particular interest.

Chapter 7 outlines the frameworks that I have been exploring to account for the verbs in locative inversion. By comparing different approaches ranging from a formal approach such as Sign-Based Construction Grammar (SBCG) to Goldberg's (1995; 2006; 2019) and Talmy's

(2000a/b) functional/cognitive approaches, it gives reasons why the latter ones are better options for this project.

Chapter 8 elaborates the most important part of the thesis, i.e., the Windowing of Attention theory in Talmy's (2000a) cognitive approach. It illustrates how this theory with its different paths together with the concept of coercion can explain the felicitousness of verbs found in locative inversion.

Chapter 9 compares the three different constructions in terms of genres and verbs found in the BNC by means of Python scripts.

Chapter 10 concludes the entire thesis and provides suggestions for further research.

2. Literature Review

As the clearest differences between the three constructions under discussion appear to involve their information structure, this literature review will firstly focus on information structure and then discover some other interesting aspects along the way.

Information structure is the study of how information can be packaged in order to meet the immediate communicative needs of the interlocutors (Chafe, 1976). The natural flow of information in English is from given to new, with new information ideally in end-focus position in a clause. English has evolved a fairly rigid word order in which syntactic function maps on to Information Structure (IS) status, in that given material is matched to the subject and new material to the object/complement (Downing & Locke, 1995). In tandem with the loss of freer word order, special constructions developed in Early Modern English as "escape hatches" to accommodate the requirements of IS (Los, 2012). The existential clause with dummy *there*, for example, provides an "escape hatch" for cases where the subject encodes new information, as it allows the subject to appear in end-focus position:

(1) *There* is a grocery across the street.

The existential *there*-construction has a close counterpart in English that also expresses the proposition of existence and/or occurrence, but in this case with a prepositional phrase (PP) as an adverbial denoting a location in the initial position of a sentence: locative inversion (2a) (Biber et al., 1999). Locative inversion is characterised by a noncanonical word order "PP V NP", which is argued to be the result of switching the position of PP and NP of the canonical word order (Levin & Rappaport Hovav, 1995, L&RH for short) (this viewpoint is challenged by some authors, see below.).

There is also a third construction, a hybrid construction, as in (2b) that appears to combine the other two, with *there* appearing in the position between a locative PP and the main verb. This construction seems to express the same proposition; cf. (2a-b).

(2) a. *Across the street* is a grocery.

b. *Across the street there* is a grocery.

(Bolinger, 1977, p. 93)

Although the three constructions can express very similar propositions in terms of their semantics, their felicitousness in a given discourse appears to be determined by different factors, such as previous context, different usage of verbs and the information status of the postverbal noun phrase (NP) and preverbal PP.

The review will be unpacking these constructions respectively from different perspectives, focusing mainly on syntax and pragmatics; more specifically, on the information status of the subject, the classification of the verbs and the information status of the initial adverbial, which are generally used as the parameters to differentiate these three constructions.

In some studies, like for example Birner (1996), the examples in (1), which are usually known as existential *there* constructions, and (2b), which in this study is called the hybrid construction, are both categorised under the same heading as "*there*-insertion". Meanwhile, the instance in (2a) without *there* is generally known as locative inversion (or stylistic inversion see e.g., Rochemont & Culicover, 1990) and considered a separate construction from the other two.

The difference between the two constructions known by the name of *there*-insertion and the difference among all three constructions, including locative inversion, has been explored by many authors. However, *there*-insertion and locative inversion have been claimed to be essentially the same construction by some authors, for example, Penhallurick (1984) and Hartvigson and Jakobsen (1974), who claim that *there*-insertion is a type of inversion in which *there* appears for some pragmatic reason. Penhallurick (1984) argues that *there* is used when both the locative and the postverbal constituents convey new information, as in (1), in which *across the street* and *grocery* could both be new information. In this situation, *there* is used only to fill the pre-verbal position, which needs to be filled in order for the sentence to be grammatical (the EPP principle, see Chomsky, 1982, p. 10). For the hybrid construction in (2b), Penhallurick argues that *there* could be used when "something is out of sight or less concrete, factors which make for harder processing" (Penhallurick, 1984, p. 50). This idea goes back to Bolinger (1977), who claims that "existential" *there* is an extension of

locative *there* (see below for more discussion). Hartvigson and Jakobsen claim that *there*-insertion "serves to preserve the basic distribution of 'communicative dynamism'" (to make old information precede new information) (1974, p. 62).

Similarly, Kuno (1971) claims that locative-verb-NP is the basic word order of English existential sentences, as in (2a), in which case the locative in (1) is postposed and the empty position is filled by *there*, a locative pronoun. However, this analysis cannot explain the construction when there is no concrete location at all, as, for example in (3a-b), where *there* is used without any indication of physical existence:

(3) a. *There* will be no money left.

b. *There* are two more weeks of school.

(Kuno, 1971, ex. 96)

Other scholars (e.g., Rochement & Culicover, 1990) claim that a sentence like (4) might be derived either as an inversion, or as a *there*-insertion construction where *there* is optionally omitted:

(4) Into the room *walked* a man no one recognised.

(Rochement & Culicover, 1990, p. 105)

Birner (1996), however, argues that the *there*-insertion construction and locative inversion are two different constructions. Additionally, she argues against the idea that *there* in this context acts as a pro-form for the locative (see also Milsark, 1974).

It is clear that, on the one hand, not all instances of locative inversion permit *there*-insertion. At the same time, not all instances of *there*-insertion with a preposed locative are equally felicitous without *there* (Birner, 1996, p. 28). On the other hand, some instances like the construction in (2b) with *there*-insertion are equally acceptable whether or not *there* is present, witness examples in (5) and (6):

(5) a. Finally, ahead of them *there* loomed what seemed to be a hill of stone.

b. Finally, ahead of them loomed what seemed to be a hill of stone.

(6) a. Behind the counter stood a middle-aged man.

b. Behind the counter *there* stood a middle-aged man.

[both (5) and (6) are from Birner, 1996, p. 28-29]

If, as Birner suggests, *there*-insertion and locative inversion are different constructions, there must be different sets of rules that govern the felicitous use of these constructions.

2.1. The information status and the definiteness of the postverbal NP

Some sources divide the *there*-construction into two different constructions: existential *there* with a verb *be,* as in (7a), and presentational *there* with verbs other than *be* as in (7b).

(7) a. …. There *was* a moonlit night when they started their journey at evening, having slept during the day.

(Birner & Ward, 1998, p. 111)

b. There only *lacked* the moon; but a growing pallor in the sky suggested that the moon might soon be coming.

(Birner & Ward, 1998, p. 108)

Birner and Ward (1998) assert that there are pragmatic distinctions between presentational *there*-sentences and existential *there*-sentences, particularly concerning the information status of the postverbal NP. In presentational *there*-sentences, the postverbal NP is required to convey discourse-new information. Birner and Ward's research indicates that the majority of NPs in presentational *there*-constructions present information that is both hearer-new and discourse-new; the NP may even introduce information that, while familiar to the hearer, is new to the ongoing discourse (Birner & Ward, 1998; Ward & Birner, 2001). For example, in (7b), the moon is a known entity to the hearer but is introduced as new information in the discourse.

As for the existential *there*-construction, Birner & Ward argue that it is the hearer-status rather than discourse-status that determines the felicitous use of NPs in existential *there*-sentences. More precisely, this construction requires a hearer-new postverbal NP (Birner & Ward, 1998; Ward & Birner, 2001), as in (8):

(8) a. A: I'm home. Anything interesting happen today?

B: Not really. *There's a dog running loose somewhere in the neighbourhood.*

b. A: Have you seen the dog or the cat around?

B: Not lately. *# There's the dog running loose somewhere in the neighbourhood.*

(Birner & Ward, 1998, p. 103)

In (8a), where the dog is information new to the hearer, the use of the existential construction is acceptable. In (8b), where the dog is already known to the hearer, the use of the existential construction is inappropriate.

As for the question of definiteness, the literature does not differentiate the two types of *there*-constructions. Biber et al. (1999, p. 954) found that 90% of existential clauses occur with indefinite notional subjects, and it is assumed by some authors (Milsark, 1974; Safir, 1985; Lasnik, 1992; and others) that a 'definiteness effect' can prevent definite NPs from appearing as postverbal NP in *there*-sentences. A definite NP generally denotes something that is identifiable, or, more specifically, it has to be individuable within the discourse model. However, Ward and Birner (2006) argue that there are three conditions in which definite NPs can also occur in the *there*-construction, claiming that the restriction is not about definite NPs but about the precise information-structural status of the NP. Examples are given below:

(9) a. The Woody Allen–Mia Farrow breakup, and Woody's declaration of love for one of Mia's adopted daughters, seems to have everyone's attention. There are <u>the usual sleazy reasons</u> for that, of course – the visceral thrill of seeing the extremely private couple's dirt in the street, etc. (San Francisco Chronicle, August 24, 1992)

b. In addition, as the review continues, there is always the chance that we'll uncover something additional that is significant. (Challenger Commission Transcripts, March 18, 1986)

c. There once was this sharp Chicago alderman who also happened to be a crook. (Chicago Tribune; cited in Birner and Ward 1998: 139)

(Birner & Ward, 2006, p. 165)

In (9a), 'the usual sleazy reason' in this discourse is something new to hearer but it at the same time refers to an instance of hearer-old type of 'usual' sleazy reason why people are always interested in a celebrity couple's life. In (9b), 'the chance' in question is fully and uniquely individuable as illustrated in the sentence, while it still represents hearer-new information. Notably, it seems that the explanation following the definite NP can license the use of a definite article in a sentence like (9b). In (9c), the postverbal NP 'this sharp Chicago alderman' introduces new information, making it felicitous in the existential construction; notably, this NP does not signify identifiable or individuable information within the ongoing discourse, categorising it as a "false definite" (Ward & Birner, 2006, p. 166). As for the definite form *this* in (9c), Breban (2012) argues that this demonstrative does not necessarily denote identifiable referents; rather, the use of *this* is to inform the reader/ hearer that the referent will possibly become important in the subsequent discourse. The examples illustrate that the postverbal NP in *there*-sentences does not have to be morphologically indefinite (Birner & Ward, 1998).

Unlike the large proportion of indefinite postverbal NPs found in the *there*-construction, definite nouns are more common in locative inversion (35%) than in *there*-constructions (Biber et al., 1999). The definiteness of the postverbal NP in locative inversion is not discussed much in the literature. Culicover and Levine (2001) divide locative inversion into two groups according to the properties of the postverbal NP, the light inversion (10a) with a very simple postverbal NP, and heavy inversion (10b) with a heavy NP shift of the postverbal element, see examples below:

(10) a. Into the room *ran* Robin.

(Culicover & Levine, 2001, p. 305)

b. Into the room *walked* carefully the students in the class who had heard about the social psych experiment that we were about to perpetrate.

(Culicover & Levine, 2001, p. 292)

Furthermore, according to this theory, the type of inversion can determine which type of verb can be felicitously used in each case.

2.2. Verbs

2.2.1. Verbs in locative inversion

The constraint on verb types in locative inversion is one of the most discussed issues regarding this construction. It is found that the verb *be* makes up half of the total number of the verbs type found in locative inversion (Biber et al., 1999, p. 954).

There are many attempts in the literature to categorise the verbs appearing in locative inversion into syntactic and semantic classes, but no single characterisation can cover all the verbs found in locative inversion.

Perlmutter (1978) proposes an Unaccusative Hypothesis suggesting that intransitive verbs can be categorised into two groups, namely, unaccusative verbs and unergative verbs, which are categorised by their underlying syntactic structure. It is argued that the unaccusative verbs as in (11a) have a direct internal argument (complement) and no subject, i.e., a D-structure of *… melts the snow*, whereas unergative verbs as in (11b) have an external argument but no direct object at D-structure (L&RH, 1995, p. 4). Examples are given below:

(11) a. The snow melted.

b. They swam.

Based on this hypothesis, many researchers argue that the verbs appearing in English inversion are exclusively unaccusative verbs, claiming that unergative verbs cannot occur in this construction (Levin, 1983; Coopmans, 1989; among others), as exemplified in (12):

(12) *a. In the garden smiled a boy. (unergative)

b. In the garden stood a boy. (unaccusative)

Indeed, the majority of verbs observed in this construction are intransitive and align with the typical characteristics of the unaccusative class. Among them are certain verbs of appearance (*appear, arise, issue*) as in (13a), verbs of existence (*exist, flourish, thrive*) as in (13b), including verbs of spatial configuration with inanimate subjects (*protrude, perch*) as in (13c), and verbs of inherently directed motion (*come, go, arrive*) as in (13d). Verbs of motion as in (13e) (*ride, stride, bound*) and even verbs of sound emission are found in this construction with directional phrase complements (*rattle*) as in (13f). See below:

(13) a. …from the lips of this poor soft-brained creature *issue* a flow of beautiful words in the accent of some place that was certainly not Ballyderrig.

b. Far below the jagged spires and knife-edge ridges of the Dortmund range, smug and secure in the shadows of those glistening, snow-capped cathedrals, *thrives* the quaint town of Kringlewald.

c. On the black lacquer of the piano *perched* three brass-framed pictures…

d. And when it's over, off will *go* Clay, smugly smirking all the way to the box office, the only person better for all the fuss.

e. Down the dusty Chisholm Trail into Abilene *rode* tactiturn Spit Weaver, his lean brown face an enigma, his six-gun swinging idly from the pommel of Moisshe, the wonder horse.

f. Through the orchards *rattled* the field station's Ford pickup, bearing its two silent passengers.

(Levin & Rappaport Hovav, 1995, p. 220-222)

It is argued that the verbs of motion and verbs of sound emission must take directional complements in order to qualify as unaccusatives (see also the Auxiliary Selection Hierachy, Sorace, 2000, p. 863).

Nevertheless, the proposed generalisation that every verb found in locative inversion falls within the unaccusative verb category has been challenged by many researchers. On the one hand, it is found that some unaccusative verbs can be used in locative inversion while some cannot (Birner, 1996). On the other hand, a corpus-based investigation of locative inversion revealed that certain subclasses of unergative verbs could also be present in this construction (Levin & Rappaport Hovav, 1995) which seems to overturn the generalisation. Levin and Rappaport Hovav (1995) highlight the challenge of aligning the set of verbs observed in locative inversion with the class of unaccusatives. They argue that some unaccusative verbs such as *melt* and *break* cannot occur in locative inversion, while some unergative verbs such as *work* and *march* are actually found in this construction (Rochemont & Culicover, 1990; Levin & Rappaport Hovav, 1995), as exemplified in (14):

(14) *a. On the top floor of the skyscraper *broke* many windows.

*b. On the streets of Chicago *melted* a lot of snow.

c. Several groups behind the mayor's *marched* police officers from Sheriff James O'grady's parade unit.

d. On the third floor *worked* two young women called Maryanne Thomson and Ava Brent, who ran the audio library and print room.

(Birner, 1995, p. 246)

Another unexpected class of verbs, which is regarded as unergatives, is also found in this construction—verbs of emission, for example, light emission (*gleam, glisten, flash, sparkle, glitter*) as in (15a), sound emission (*tick, rumble*) as in (15b) and substance emission (*bubble*) as in (15c):

(15) a. …Through the enormous round portal *gleamed* and *glistened* a beautiful valley shining under sunset gold reflected by surrounding cliffs.

b. In the hall *ticked* the long-case clock that has been a wedding present from her parents.

c. Over a Bunsen burner *bubbled* a big, earthenware dish of stew.

(Levin & Rappaport Hovav, 1995)

In order to explain why those unergative verbs could be felicitously used in locative inversion, Culicover & Levine (2001) argue that the locative inversion could be divided into two categories, namely light inversion and heavy inversion (see also above, Section 2.1). They claim that light inversion is restricted to unaccusatives (see 10a), whereas the verbs in heavy inversion can be both unaccusatives and unergatives (see 10b).

However, Culicover and Levine (2001) do not explicitly explain why light inversion is limited to unaccusatives while heavy inversion is not. The assertion is grounded in the observation that the two constructions demonstrate distinct behaviours in relation to various syntactic operations. The paper suggests that the heavy subject is moving to the right from [Spec, IP], while the light subject is within the VP, and the PP in light inversion is a syntactic subject, while the PP in heavy inversion is a syntactic topic.

Coopmans (1989) argues that there is no single grammatical process called ‘’stylistic locative inversion” in English. He argues that there is no rightward movement from the subject position, and if there is a movement somehow, it should be from the VP-internal position to a presentational focus position. As for the reasons why the unergatives can occur in the locative inversion construction, he argues that if the motional intransitive and unaccusative verbs can be collapsed together as unaccusative verbs, it would be in favour of the claim that the postverbal subjects in locative inversion are all VP-internal (in terms of GB theory, at the D-structure level) arguments. Data from Italian and Dutch suggest that it is highly possible that the subjects of some verbs of locomotion (e.g., *arriveren* ‘arrive’, *gaan* ‘go’, *vertrekken* ‘depart’) are internal arguments when combined with PPs, thus there is no difference from the subjects of those unaccusative verbs. By contrast, the subjects of unergative verbs of locomotion are always external arguments, which is why those verbs are not allowed in locative inversion.

After years of debate over this topic, it seems that the unaccusativity theory cannot fully account for the data, which is why some authors try to approach the problem from the perspective of the discourse function of locative inversion. Levin (1991) notes that the verbs in this construction are restricted to verbs of existence and appearance, and this restriction has been attributed to a proposed 'presentational function' of inversion (Penhallurick 1984; Bresnan & Kanerva, 1989). It is argued that this construction is used for presentational focus, which means it is used to introduce the referent of the postverbal NP on the scene (Levin & Rappaport Hovav, 1995). In addition, Bresnan (1994, p. 90) argues that "in presentational focus, a scene is set and a referent is introduced on the scene to become the new focus attention. In the core cases, a scene is naturally expressed as a location, and the referent as something of which location is predicated—hence, a theme. This imposes a natural selection of the <*th loc*> argument structure."

Nonetheless, Birner (1992; 1994) argues that the postverbal NP does not have to be discourse-new, which seems to overturn the "presentational focus" analysis. Her extensive corpus study shows that the information conveyed by the postverbal NP in locative inversion has to be less familiar than the information in the NP in the preverbal PP, but it does not necessarily have to be discourse-new. The findings by Birner might suggest that locative inversion may not always bring a new entity onto the scene, as the postposed NP could represent information already familiar or under discussion. In addition, she also talks about the discourse function from a different perspective**.** Birner (1995) contends that the acceptability of verbs in locative inversion is constrained by the pragmatic requirement that these verbs should not introduce new information to the ongoing discourse (Birner & Ward, 1998). The verb *be* is informationally light on its own, since it contributes almost no new information to the discourse other than indicating the existence of an entity (Hartvigson & Jakobsen, 1974; Birner, 1995). Verbs other than *be* function similarly, in that the motion denoted by those verbs is always inferable from the postposed constituent; more specifically, the verbs always represent the manner of movement that is typical of the entity in the postverbal NP in the discourse (Birner, 1995; Ward et al., 2002). For example, in the sentence *Down the hill rolled the baby carriage* (Coopmans, 1989), the verb *roll* represents a typical motion that could be easily inferred from the postverbal NP *baby carriage*. Identifying a verb as unaccusative is insufficient for it to be permitted in locative inversion;

additionally, the verb must convey information that has been previously introduced in the discourse (Ward et al., 2002). Some unaccusative verbs represent new and unpredictable information in a given context, thus cannot be felicitously used in locative inversion, for example:

(16) * a. On the top of floor of the skyscraper *broke* many windows.

* b. On the streets of Chicago *melted* a lot of snow.

(Levin & Rappaport Hovav, 1995, ch. 6, ex. 18) (Birner, 1995, p. 246)

The verbs in example (14a-b), repeated as in (16) represent new information to the discourse, therefore they are not informationally light and cannot be used felicitously in this construction. This could show that their information-structural status rather than the unaccusativity is the salient characteristic of the verbs in locative inversion. However, the problem of this analysis is that it is hard to measure the lightness of the verb, as there are no criteria to define what is the typical motion or activity of the entity in postposed NP.

However, Mendikoetxea (2006) argues that this pragmatic characterisation can co-exist with the syntactic/semantic analyses of their properties. She argues that the syntactic/semantic generalisation of the verbs in locative inversion is acceptable if the unergative verbs in this construction could be seen as having 'become' syntactically unaccusative, thus denoting existence and appearance. More specifically, she believes that the unergative or unaccusative is not lexically determined but determined at the syntax level: verbs are freely inserted into any one of these constructions. For example, when unergative verbs are merely expressing an atelic existential meaning, it is possible for them to merge into the unaccusative structure. The mechanism behind this is that when the unergative verbs conflate with unaccusative structure, the atelic existential structure of the entire sentence emphasises the state component, relegating the activity component to a secondary or subordinate role. As a result, the unergative verb in the unaccusative construction contributes little more than the existence of the postverbal NP as in "Inside *swam* fish from an iridescent spectrum of colours (J. Olshan, the Waterline, 177)" (Mendikoetxea, 2006).

Nevertheless, Levin and Rappaport Hovav (1995) argue that the evidence of the meaning shift from unergative to unaccusative is not easily identified. What is more, there is no reason to resort to the meaning shift approach to account for the occurrence of unergatives in locative inversion. The range of unergative verbs found in locative inversion is very broad so that they can be categorised into different subclasses, such as internally caused verbs of emission, verbs of body-internal motion, agentive verbs of manner of motion, and many other agentive activity verbs; thus, it is hard to generalise that all the occurrences of unergative verbs in locative inversion are due to a meaning shift.

2.2.2. Verbs in *there*-sentences

Unlike the balanced distribution of the verb *be* and verbs other than *be* in the locative inversion construction, the verbs in *there*-sentences are found to be predominantly *be* (95%) (Biber et al., 1999). It is generally accepted that existential *there* with the verb *be* is to express the existence or occurrence of some entity denoted by the postverbal NP. However, there are still some other verbs that can be found in *there*-sentences, such as verbs of existence (e.g., *exist*), spatial configuration (e.g., *hang*), appearance (e.g., *arise*), inherently directed motion (e.g., *fall*), manner of motion (e.g., *fly*) and meander verbs (e.g., *climb*) (Levin, 1993, p. 88-89).

Milsark (1979, p. 245-255) argues that there are two types of verbals in *there*-construction, namely, inside verbals and outside verbals. The first type refers to the verbs that can be directly followed by a noun phrase, whereas the noun phrase associated with outside verbals appears to the right of the entire VP. See the example in (17) below:

(17) a. There *began* a rainstorm.

b. There *walked* into the bedroom a unicorn.

(Milsark, 1979, p. 246)

For the verbs in inside verbals *there*-sentences, he argues that some verbs such as *grow*, *develop* and *follow* can appear in this construction as they are at least two ways ambiguous,

for example, *develop* can indicate “arise” and “mutate in form”, and only the one reading that indicates the appearance of an entity could survive. Furthermore, the ability of being quantified of the NP is also of vital importance in determining the felicitous use of the verbs. It is suggested that those verbs that can occur in inside verbals will be able to take unquantified subjects, for example, *arise*, *emerge*, *exist* and *begin* are all able to occur with unquantified NPs, whereas verbs like *increase* and *continue* which cannot occur in this construction also require quantification in their NP. Nonetheless, he also points out that there are verbs that can take unquantified subjects but cannot occur in a *there*-construction; thus, this rule is very far from being a generalisation.

Martinez Insua (2002) argues that there must be a communicative and pragmatic reason for speakers to choose a verb over *be* if the basic function of *there*-construction is to express existence in general. Besides the function of drawing the addressee’s attention towards the existence of some entities, verbs other than *be* can denote the process of the existence or appearance of the entity in the notional subject (Martinez Insua, 2002). An illustration of this is a *there*-construction utilising ‘follow’ as its main verb (as in ‘*there followed lean years...*’). This not only indicates the presence of a specific period of time but also suggests that this period followed something that is explicitly mentioned or can be deduced from the preceding context (Martinez Insua, 2002). In this sense, it seems that the *there*-construction with verbs other than *be* might have stronger links with the previous context.

Levin and Rappaport Hovav (1995) initially proposed that the verbs used in locative inversion and outside verbals in there-insertion share similar patterns, and that these patterns could help determine whether a verb is unaccusative (a specific type of intransitive verb). However, they later discarded this idea and instead supported Birner’s (1995) pragmatic account, which explains the use of verbs in these constructions based more on context and communicative goals, rather than on grammatical diagnostics like unaccusativity.

2.2.3. Summary of the verbs' distribution

The locative inversion and the *there*-insertion constructions are generally acknowledged as two diagnostics to test the unaccusativity of verbs, so it would be circular reasoning if people claim that the verbs in locative inversion are all unaccusative verbs, while there are actually many unergative verbs occurring in locative inversion. Levin and Rappaport Hovav (1995) argue that locative inversion should not be regarded as a diagnostic to test unaccusativity of intransitive verbs; instead, they contend that this construction serves a specific discourse function, showing a preference for certain semantic classes of verbs. Both unaccusative and unergative verbs are present in this construction because a subset of unaccusative verbs and a subclass of unergative verbs align with the communicative purpose of this construction (Levin & Rappaport Hovav, 1995).

In order to solve the dilemma of which type of verbs can appear in locative inversion, some authors try to look at this problem from different perspectives. Bresnan (1994, p. 10-11) proposes that "locative inversion can occur just in case the subject can be interpreted as the argument of which the location, change of location, or direction expressed by the location argument is predicated—a theme in sense of Gruber (1976) or Jackendoff (1972; 1976; 1987)". She argues that locative inversion can only be achieved with the verbs that take theme and location arguments.

Summing up, there have been many attempts to characterise the verbs that are found in the three constructions of (1) – (2), but no single statement can cover all the verbs encountered. Therefore, this is a problem that still requires an answer, and the other important point is that, as Levin and Rappaport Hovav (1995) states, the real question should be why those specific classes of verbs are relevant to these constructions.

2.3. Subject in constructions

The subjecthood of *there* in *there*-sentences has long been discussed in the literature. Bolinger (1977) argues that when *there* is used in a sentence, it exhibits the syntactic

properties of a subject pronoun: *there* can invert with verbs in negation, conditionals and questions (including tags):

(18) a. Never did *there* arise the slightest suspicion about his character.

b. Had *there* occurred one more accident, the policy would have been cancelled.

c. *There* is time, isn't *there*?

(Bolinger, 1977, p. 90)

Similarly, Ward et al. (2002, p. 1391) suggest that the dummy *there* is a pronoun and functions as a subject or raised subject as in '*There* seems to have been a mistake'*,* and is able to fill the subject position in interrogative tags, as in: *There is something wrong, isn't there?* This property is otherwise only shared with subjects.

Even though existential *there* is generally seen as a meaningless word which just functions syntactically as a dummy *there* (Quirk et al., 1972), Bolinger (1977, p. 91-92) argues that existential *there* is a continuation of locative *there* and still denotes a locative meaning in some sense (see also Biber et al., 1999, p. 944, Ward et al., 2002, p. 1391). He argues that existential *there* in English resembles the word *hay* in Spanish which is used to bring something into existence, bringing something into awareness, and awareness is the abstract location denoted by *there*.

On the contrary, Dorgeloh (1997) argues that *there* is not a locative constituent itself, it is not an adverbial of a place or direction, it simply expresses the existence of some entities (quote Quirk et al., 1985) and does not necessarily contain any locative information at all. For example:

(19) *There* was a moment's silence.

(Dorgeloh, 1997, p. 52)

Similarly, Ward et al. (2002) note that when the postverbal NP denotes an abstract entity, the existential *there*-construction is favoured over the canonical word order, as exemplified in (20):

(20) a. ?Plenty of room is on the top shelf.

b. There is plenty of room on the top shelf.

(Ward et al., 2002, p. 1397)

As for the subjecthood in locative inversion, Bresnan (1994) argues that the preverbal PP in locative inversion in English is a subject at some level of linguistic representation by referring to the evidence from subject raising, tag questions, subject extraction and extraction from coordinate constituents. In addition, Culicover and Levine (2001) developed this theory and narrowed down the subjecthood of the preverbal PP to the light inversion, as they argue that the preverbal PP in light inversion functions as a subject, while the PP in heavy inversion does not. In addition, Hoekstra and Mulder (1990) argue that the PP should be a subject at S-structure (i.e., Spec, IP position), as they note that it is still plausible to have locative inversion when the Spec, CP position is occupied by wh-complementisers. See below in (21):

(21) We suddenly saw how into the pond *jumped* thousands of frogs.

(Hoekstra & Mulder, 1990, p. 32)

2.4. The PP in locative inversion

It is worth noting that some authors have different definitions on what is locative inversion. Lyons (1968), for example, argues that spatial and temporal locatives and directional expressions are all included in the class of locative. However, following the literature that has been reviewed so far, which does not treat temporal as locative in general, this dissertation will not consider temporal expressions as locatives, and will not discuss this further.

The reason why PP could be felicitously used in the constructions remains obscure. According to Culicover and Levine (2001), as mentioned above, the PP in light inversion is argued to be a syntactic subject, whereas Birner and Ward (1998, p. 239-244) posit that the locative PP in locative inversion serves as a connection between the element in the

preposed constituent and the remainder of the matrix clause; the PP has to represent familiar information that can either be discourse-old or hearer-old; in other words, the information has to be readily identifiable. They also point out that not all PPs with a locative sense can serve as bridges in locative inversion. In order to be felicitously used in locative inversion, the PPs have to denote static locations rather than movements in this construction. Prepositions found in locative inversion include: *above, after, before, below, beside, between, from, in, into, on, over, through, under* (Birner & Ward, 1998, p. 243), among others (see below for a discussion of the prepositions *to* and *into*). Some preposition such as *from* might suggest a directional sense, but it is a locative in effect. For example, see (22),

(22) a. *From* the kitchen came a wonderful aroma.

b. *From* the kitchen came a blood-curdling scream.

(Birner & Ward, 1998, p. 243)

It is argued that it is the location rather than the movement of the aroma that is being described (Birner & Ward, 1998). It is found that some other prepositions that denote the directional sense still can be used in locative inversion. According to observation, even the PPs that have apparently directional sense could be seen as having a locative interpretation (Birner & Ward, 1998). All those are said to denote the appearance of the entity in a static scene. For example, in (23),

(23) a. …, along the stone street *passed* a flock of goats in the charge of a small white boy and an aborigine of the same age and size…

b. My neighbours have a huge back yard. *Across it runs* a string of beautiful Japanese lanterns.

c. My neighbours have a huge back yard. #*Across it runs* their German shepherd all the time.

(Birner & Ward, 1998, p. 244-245)

Birner and Ward (1998) argue that in the example (23a), *along the stone street* does not signify the movement of the goats at different points but rather their being situated along the street. The interpretation in (23b) indicates the location of the postverbal NP, rather than the motion of the postverbal entity. They also note that the verb phrase is ambiguous: they can represent either static (locative) or dynamic (directional) interpretation, and only the static (locative) reading could survive in locative inversion.

This idea is similar to Milsark's (1979) idea about the verbs in the *there*-insertion construction, where he also points out the two interpretations of the verb, with only the one indicating appearance being able to survive.

Moreover, it is found that not only the verb itself, but also the preposition could be a factor that might affect the felicitous use of the locative inversion. Based on data from the BNC, Kudrnáčová (2009) looks at the behaviours of the prepositional phrase with different prepositions and explains why the preposition *to* is not acceptable in locative inversion construction even if the verb is unaccusative. It is found that the path encoded by the preposition *into* has a simple bipolar structure, which means it has no intermediary phase of a movement; the motion along such a path is a transition from outside a location to inside this location. The preposition *into* denotes a motion from one spatial point as the goal to another spatial point as the starting point, and these two points have to belong to two different environments. The entity in question must cross the boundary separating the two environments in order to have a change of location. In contrast, the motion denoted by *to* is a sequence of motion involving more than just two spatial points with an intermediary phase, and thus all the spatial points on this axis of motion belong to the same environment. Unlike the case of the motion of *into*, the motion of *to* cannot function as 'appearance in some place' and that is why the verbs complemented by *to*—directional phrases are not acceptable in locative inversion, since the verbs in locative inversion always denote a sense of appearance.

2.5. The hybrid construction

Ward et al. (2002) argue that in narrative contexts, inversion, i.e., the construction without *there*, generally functions as scene-setting at the outset of a narrative, to introduce a scene in which the following postverbal NP can be interpreted, as in (24):

(24) In a little wooden house in the middle of a deep forest lives a solitary woman who spent her days reading and gardening.

(Ward et al., 2002, p. 1387)

Bolinger (1997) also discusses the absence and presence of *there* in the locative inversion construction, as in the example (2b) above repeated here in (25b).

(25) a. Across the street is a grocery.

b. Across the street *there* is a grocery.

(Bolinger, 1997, p. 93)

With respect to these seemingly identical sentences in terms of truth conditions, Bolinger (1977) proposes that speakers are more inclined to use *there* when referring to something that is currently out of sight and out of mind, intending to bring it into the listener's awareness. On the contrary, the presentative construction in (25a) is more likely to bring something onto a physical stage; if the content of the sentence were already related to the general topics in the current context or conversation, it would be redundant to use *there* to build a stage for the topic to be grounded.

Another characterisation that distinguishes the two constructions is that in the sentence with a fronted locative PP, it will be felicitous to insert *there* before the verb if the event is an occurrence, more specifically, something that is occurring in a particular place and is at least partly locative. It will be infelicitous to insert *there* before the verb when the event is a happening, something that is purely eventual (Bolinger, 1977). The distinction is exemplified in (26):

(26) a. In the building there *exploded* one of the most powerful bombs. (occurrence)

*b. In the sink there *broke* one of my best plates. (happening)

(Bolinger, 1977, p. 100)

Bolinger (1977) also notes that *there* must be added in order to introduce a new setting if *there* functions as an opener of a story.

Similarly, Erteschik-Shir (1997) puts forward a focus-structure theory (F-theory), arguing that the initial element denoting time and space in a sentence may function as the topic in terms of information structure. According to the F-theory, the common ground in a specific context consists of a stack of file cards that presents existing discourse referents, and the entries on those file cards are formed by the common ground propositions. Topic can be assigned only to those constituents with a file card available on top of the file, or in other words, cards that have been put there by previous utterances. Generally, a card that signifies 'here–and–now' of the discourse situation is usually located on the top of the file, thus could be assigned as a topic preferentially. For example, in the available file cards: [in the chair] and [the king of France is sitting], the file card [in the chair] that indicates the place of the proposition must be on the top of the file so that the sentence could be reasonably interpreted (Erteschik-Shir, 1997, p. 26-27).

Based on this suggestion, the initial adverbial in locative inversion can be considered as a stage topic to indicate the place of the discourse as in (25a). However, this theory cannot explain the case when there is already a stage in (25b) but *there* is still inserted. The reason why *there* is inserted in a locative inversion is not clear yet.

Birner and Ward (1998) argue that the hybrid construction of PP with *there*-insertion is distinct from inversion (including locative inversion) both formally and functionally. It is found that in order to be felicitous, the preposing ("topicalised" in their words) PP in this construction has to convey discourse-old information; at the same time, the postverbal NP must convey information that is either newly introduced in the discourse or unfamiliar to the listener, contingent on whether the sentence involves presentational or existential *there*-insertion. In contrast, the inversion necessitates that the constituents placed before the main verb convey information that is at least as familiar as the constituents positioned after the main verb in the discourse.

According to the information status of the preposing PP and postverbal NP, they argue that this construction is a combination of topicalisation and *there*-insertion, rather than constituting a single argument-reversing construction on its own. The limitations on the hybrid construction are asserted to be the combination of the limitations on the two constituent constructions (Birner & Ward, 1998, p. 205-210).

It seems that the reason why *there* occurs in the hybrid construction still remains unknown and the subtlety among these three constructions in terms of semantics and other properties have yet to be explored.

2.6. Conclusion and theoretical framework

The points raised in this literature review boil down to a single overarching question: can constructions like *there* and locative inversion be generated following the usual syntactic procedure of projection from the lexicon? From the point of view of a projectionist approach, verbs are expected to have structured lexical representations; for example, a specific argument structure can finally determine the configurations of the syntax of the sentence that contain that specific verb (Wasow, 1985). Therefore, if the syntax of these constructions is projected from the lexical properties and identifiable groups of verbs can appear in these constructions, no specific mechanisms are required, in which case it is safe to say that a projectionist approach is enough for the issue under discussion. However, as can be seen from this chapter, most authors working within such an approach have been unable to find a single generalisation of the verbs which covers all the instances in these constructions from a projectionist's view.

In face of the points raised in this chapter, a concept called coercion might be helpful in this discussion. This concept aims to explain the questions such as why both unaccusative and unergative could appear in one single syntactic construction.

Coercion refers to a discrepancy between the inherent semantic characteristics of a linguistic element choosing another and the semantic attributes of the chosen element. The selector could be a construction, a word class or an aspectual marker, while the selected

element would be a word or other linguistic element that is not expected in that particular context, thus being rendered to be reinterpreted in other ways to match the grammatical context (Lauwers & Willems, 2011). See example in (27):

(27) I began a book.

(Lauwers & Willems, 2011)

In this sentence, the verb *begin* typically takes a verbal complement such as *I began to read or write a book*, rather than taking a physical object. However, in this sentence, the term *book* is interpreted to refer to the event of reading or writing a book. In a typical context, the word *book* does not inherently carry this meaning. This interpretation is suggested to result from the coercion imposed by the construction of the verb *to begin* (Lauwers & Willems, 2011).

Therefore, if projection cannot fully account for these constructions (refer to Section 2.2.1), a better approach might be to see them as constructions in Construction Grammar approach. Such an approach was developed by, e.g., Hoekstra (1992), who advocated a constructional approach in order to argue against the existence of structured lexical representations in some constructions. The fundamental concept of construction grammar is that the fundamental sentences in English (or other languages) are exemplifications of constructions—pairings of form and meaning that exist independently of specific verbs (Goldberg, 1995, p. 1). In other words, for a verb, there is no internal linguistic structure or underlying syntactic or semantic form posited (Goldberg, 1995, p. 7), and the exact meaning and felicitousness is determined by the construction that it occurs in.

In the context of Construction Grammar, if a construction has the capacity to influence the meaning of a lexical item within it, then the construction is considered to possess a distinct meaning, regardless of the specific lexical items it incorporates (Lauwers & Willems, 2011). For instance, locative inversion involves the use of unergative verbs, which are typically not expected in this construction, leading to a modification of the meaning of the lexical item. Furthermore, coercion is seen as a mechanism capable of altering the argument structure of a verb.

Given that this study will be looking at the data of sentence in BNC, it is in accordance with the recent usage-based approach in coercion study: language-user coercion, which refers to a more usage-based approach to understanding coercion in linguistics. It highlights how coercion arises from the practical, real-time challenges language users face during communication, particularly in creative or non-standard uses of language. It focuses on the actual cognitive and interpretive processes individuals undergo when encountering unexpected or unconventional language patterns. Furthermore, there is ongoing discussion about the factors that enable a construction to broaden its applicability, and it is what this project will be focusing on.

2.7. Research questions

1. What is the function of the hybrid construction as in (2b)? What are its differences and similarities with the *there*-construction as in (1) and with the locative inversion construction as in (2a)?
2. On the assumption that verbs found only very infrequently with locative inversion in natural language corpora are likely to show language users at their most creative, can we come up with an account that can also account for such "outlier" verbs, in addition to accounting for the verbs known to occur with the construction in the literature?
3. What are the differences and similarities among these three constructions in terms of the usage of verbs?
4. What is the impact of register and genre on the frequencies of these three constructions, and how can the distribution of the constructions over the various genres contribute to their analysis?

3. Methodology

Using BNC will vastly facilitate the data collection for this research which will be illustrated as follows, but it has to be pointed out clearly that this research is not primarily a quantitative study, as it will not involve complex statistical analysis. However, there will be some basic statistics later on, such as the total occurrences and frequency of each sentence structure, to provide a clear idea of the distribution of different constructions in various genres. Overall, this project is qualitative given that it focuses on the linguistic analysis of natural language use.

3.1. Reasons for choosing the BNC

This study employs the monolingual British national corpus, known as the BNC for short, which is a 100-million-word text corpus of British English of the late 20th century from a wide range of resources and genres. As one of the constructions, locative inversion, is not frequently found in ordinary language usage, a large corpus such as BNC is needed to mine the data to get enough instances of this construction. Due to the special status of this construction both in terms of its syntax and its pragmatics, as we have seen in the previous chapters, it is reasonable to hypothesise that the construction is not distributed evenly but is likely to be much more frequent in one genre than another, so that a corpus with genre information will facilitate the research in this regard.

In the BNC, the information on the genres and sources is shown in the introduction page of the given written samples; users can also check the context in which the sentences occur to examine the instances in context. This information is shown in different ways in the various interfaces that are made available in a number of different websites to search the BNC, and some of these are more helpful to retrieve datasets within specific parameters (like genre information) than others. Therefore, it will be helpful to try different interfaces for different purposes throughout this research as will be seen at a later stage.

For all the three constructions, I firstly used the BNCWeb at Lancaster University to retrieve the raw data. The search terms I used are provided in (1):

(1)

a. To get *there*-construction, use query: [<s>there _{VERB}]

b. To get locative inversion: use query: <s>_{PREP} (_{ART})* ((_{ADV})* _{A})* (_{N})+ _{VERB} (_{ART})* ((_{ADV})* _{A})* (_{N})+[1]

c. To get hybrid construction: <s>_{PREP} (_{ART})* ((_{ADV})* _{A})* (_{N})+ there _{VERB} (_{ART})* ((_{ADV})* _{A})* (_{N})+

This method is used for the data throughout this project, so in the following chapters, I will refer back to this method wherever needed.

3.2. Advantages and disadvantages of the corpus method

Traditional methods in the research in cognitive linguistics have been challenged for not having clear methodological principles (Sandra & Rice, 1995), but the corpus-based and usage-based methods employed in this thesis are supported and used by many in cognitive linguistics (e.g., Jenset, 2013). In Construction Grammar (CxG), constructions are meaningful form-meaning pairings, which entails that they can be easily identified in a part-of-speech (POS) tagged corpus. The corpus chosen in this project is POS-tagged. Running the results from a BNC search through AntConc (Anthony, 2023) allows all three constructions to be easily filtered out and saved into separate tables in Excel. The verbs are easily identified with the KWIC view (Key Word in Context), which can be then collected for detailed research. Different methods are employed throughout the data collection to collect datasets for different purposes, such as Python, and the methodology will be introduced accordingly in each section wherever necessary.

A corpus method is employed in this research because it can provide a solid, real-world foundation for studying language. Instead of relying on made-up examples or subjective introspection, corpus linguistics is grounded in actual instances of how people use language

[1] * means this component is optional, the same applies to the query for the hybrid construction

in daily life. This gives our analysis an empirical and inductive basis, which is more reliable for identifying patterns, rules, or trends (Litosseliti, 2010).

One key reason for using a corpus is that human introspection about language is often inaccurate. We tend to be influenced by cognitive or social biases, meaning our judgments about how language works are not always objective. By using a corpus, we can bypass these biases and look at how language is actually produced in various contexts. Another advantage is that a corpus can reveal the gradient nature of language patterns. Instead of seeing rules as strict or absolute, we will find that language often works on a spectrum, with patterns emerging from tendencies rather than rigid rules. A large corpus such as BNC with 100 million words (Litosseliti, 2010) allows us to uncover rare or unusual uses of language, e.g., novel verbs in locative inversion, that might not be visible in smaller data sets, while also providing insight into very frequent language phenomena (Litosseliti, 2010).

In short, corpus linguistics gives us access to a broad, unbiased and a sufficient number of representative language sample of real-world language use, enabling more accurate and comprehensive analysis. Particularly in this research, it allows us to look into a large data base which will be very difficult or even impossible to collect from other methods such as interviews or experiments, especially for not so commonly seen constructions such as locative inversion, and even more creative uses of language, such as the verbs I listed in the verb chapter (Chapter 6).

Although there are many advantages in using corpora for linguistics research, there are some disadvantages. For example, it is easy to find specific collocations, such as what I found in this project, but the raw data always contains a lot of noise, which is very time consuming to sort out. For example, when I use the query via the Lancaster University site as in (1b) intending to obtain instances of locative inversion for the study in Chapter (4), there are temporal instances with time and other adverbials, which I have to manually filter out. Nonetheless, this will not be a huge problem when I use Python to mine the data from BNC as it is detailed in Section 9.2.1.

3.3. Other potential methods

Other methods were also originally considered as part of the research, such as running experiments and collecting judgements from native speakers via questionnaires, i.e., after getting the verbs out of the big corpus, we could have asked native speakers of English to rate on the scale how much they think the verbs are acceptable in certain sentences from the corpus, or we could have asked native speakers to fill out the locative inversion sentences with verbs that they think are acceptable. However, this plan was not carried out due to the global pandemic when it was hard to operate any experiments due to many reasons, such as the effect of the lockdowns on the progress of the entire research, the impossibility of data collection involving face-to-face-contact, and lack of access to experiment facilities.

Methods such as questionnaires also have their limitations in collecting data for this particular project, given that the locative inversion is restricted to certain genres as well as to descriptive text types, as will be seen in Chapter 9. As I have mentioned in the literature review (Section 2.2.1), by using a corpus-based method, Levin & Rappaport Hovav (1995) found that unaccusative verbs are not the only subcategory of verbs that can appear in locative inversion, and some unergative verbs are also allowed in this construction. The same discovery was made by Birner & Ward (1998); they themselves would never have thought verbs like work would be acceptable, but it was found in their corpus, in a context which made it somehow "work". The challenge of this project was to identify the precise function of the construction, in a much more fine-grained way than either Levin & Rappaport Hovav (1995) or Birner & Ward (1998) had managed to do, and this meant that it was focusing on the outliers – the unexpected, less frequent verbs, that were likely to require specific contexts to be acceptable. These would by definition not be the kind of verbs that participants in a study would come up with. This is why a corpus-based method might be more likely to uncover the largest range of possibilities in language use, and hence provide a good basis to determine the function of the construction.

To conclude, after discussing the advantages and disadvantages of various methods, it should be clear that the strengths of corpus analysis outweigh its limitations. More

importantly, compared to other methods, the corpus-based method is arguably a more suitable choice for this project.

4. The Difference Between Locative Inversion and Hybrid Constructions: the Function of *There* in the Hybrid Construction

We saw in Chapter 2 that the literature talks mainly about the *there*-construction and locative inversion, and not much attention has been paid to account for the *locative PP + there + NP* ('hybrid' for short) construction. This section will delve deeper into the hybrid construction, aiming to determine whether it is an extension of the *there*-construction with an extra prepositional phrase, a form of locative inversion with an inserted *there,* or a distinct construction in its own regard. In what follows, I will discuss the conditions and differences between locative inversion and the hybrid construction. The remainder discusses locative inversion from a Construction Grammar perspective and the reason why this framework is selected. I will use my first dataset, from a pilot study, to test a number of hypotheses that emerge from this chapter.

This chapter is organised as follows: section 4.1 briefly points out the differences between these two constructions; section 4.2 introduces the data I obtained for the pilot study and the locative inversion construction found in different scenarios; section 4.3 shows the attempts to insert *there* into locative inversion; section 4.4 shows the attempts to omit *there* from hybrid construction; section 4.5 lists the instances I found for these two constructions; section 4.6 introduces the concepts of surveyability and Perspective as well as a plan model; section 4.7 concludes this chapter.

4.1. Locative inversion, the hybrid construction and their differences

The subtleties of the difference in terms of semantics and pragmatics between those two types of constructions are the focus of this analysis. For example:

(1) a. Behind the tree stands a boy.

b. Behind the tree *there* stands a boy.

The difference between (1a-b) is hard to express in terms of the meaning of the proposition, but there must be some reason to make the speaker choose one construction over the other. In the current literature (Dorgeloh, 1997; Quirk et al., 1985), *there* is regarded as an indication of something's existence, so (1b) might highlight the existence of a boy in a specific location, say, behind the tree. However, the current literature also suggests that the verb in the locative inversion construction in (1a) does not indicate the explicit motion or action itself either; instead, it merely indicates the presence of an entity in that location (Mendikoetxea, 2006; Birner & Ward, 1998). Nonetheless, in (2) below, also from the BNC, the verb *flourish* does not seem to merely denote the existence of something like the verb *grow* does; instead, it indicates the state and condition of the plants in more detail, as discussed by Martinez Insua (2002, p. 135) with respect to a sentence like *there followed lean years in a cottage in Sussex, …*, witness (2):

(2) The garden became orderly. A smooth green carpet lay at its centre. **In the shady spots *flourished* hostas**, and in the full sun, nasturtiums, clarkias, stocks and geraniums bloomed.

(BNC A0R 2965)

4.2. The data

The primary data used in this chapter to test a number of hypotheses are collected from the BNC corpus (see Chapter 3). This pilot study includes 278 examples of the locative inversion construction, 250 examples of the existential *there* construction and 216 examples of the hybrid construction. The following section investigates corpus examples of locative inversion, to see what the effect is if we insert *there*, i.e., change them into the hybrid construction.

To introduce the data, we will see how they align in terms of known contexts where locative inversion can appear, following Webelhuth's (2011) categories, which are as follows:

(3) a. Retrospective eyewitness reports

The festival is held on parkland conveniently next to the railway station. **Behind the fairground attractions stands the customary tent**, capable of holding 3,500 people, served by waitresses capable of holding ten litre-sized steins of Erdinger Weissbräu's Festbier.

(BNC A14 309: travel journal)

b. Play-by-play broadcasts of sports events

There is no example of this category in the BNC data of our pilot study.

c. Apartment descriptions

Clothes hang on a line at one side of the room. **In one corner is a gas ring**, in another a table with some school books on it. The room is tidy, a few pictures decorate the walls.

(BNC A6V 307: apartment descriptions)

d. Routes directions

To the north is the Carrant (formerly Carron's) brook, and to the south, the river Swilgate. Both have powered mills, but the Carrant brook was much more heavily utilised.

(BNC ANC 1517: routes directions)

e. Sightseeing guides

To the left was a dinosaur of a stone pulpit, all arched and ornamented. On the right was a gap where the credence table (side table serving an altar) had stood.

(BNC A0X 1247: museum guide)

f. Scenic narrative situations

On the right are some rocks, and at the foot of them the sheep are feeding. This picture goes straight to my heart; I should like to lean against that tree between the old man and the girl and listen while the youth played.

(BNC A04 1363: description of artwork)

Although many of the examples in Tables 4.1 and 4.2 (see Section 4.5 below) appear to conform to this classification, the locative inversion instances with the preposition 'at' in initial position may at first seem to fall outside Webelhuth's types; a closer look verifies, however, that they belong to the scenic narrative situations, see (4):

(4) a. **At Pembroke College was Edward Wynn**, one of the kindest dons to grace Cambridge during the twentieth century, and another member of the Oratory of the Good Shepherd.
(BNC A68 540)

b. **At 5 Woolley Street live Richard and Pamela Nadin** who deal in unusual and rather strong pieces, often with a touch of the Gothicks.

(BNC A7D 1931)

c. **At Bletchley were two professors of the University of Edinburgh**, Alexander Aitken and Walter Bruford, who had left their chairs of Mathematics and German respectively, to devote their appropriate talents to more urgent intellectual tasks.

(BNC AMC 330)

Compared with (3f), the NPs after PP of the instances in (4) are all humans which might have long lives, i.e., being relevant to the topic for longer, in the context than that of other inanimate objects such as ***rocks*** in (3f). They are different from the usual scenic narrative situations; they seem to be introduction to new topic, in a sense that the following content of the context will prominently involve those characters.

Nevertheless, there are more examples in the BNC corpus that need to be investigated in more detail in terms of the categories, particularly when the postverbal NP is abstract, such as in (5):

(5) **Within this creed appear supportive rational arguments** but also agnostic admissions, such as 'I can understand little about that mind' and 'i do not know what 'divine' means'.

(BNC A84 15)

This instance of locative inversion does not seem to fall into any categories of the types by Webelhuth; its function here seems to be to introduce a new topic.

4.3. Inserting *there* into locative inversion examples usually infelicitous

To pinpoint the quite subtle differences between locative inversion and the existential *there* construction, I will try to describe the effect of inserting *there* into locative inversion sentences, trying to make them hybrid constructions. It turns out that some locative inversion sentences allow *there*-insertion. Many examples do not, witness (6):

(6)

× a. The worshipper looked up and wondered. **Through the glass (**there*) shone God's sun**, setting the colours alight: blue, green, yellow, red.

(BNC A08 1836)

× b. The picture changed to a close-up shot of the platform. The table on it held a thicket of microphones, a glass and a jug of water. **Behind the table (**there*) sat the president of the world**. Beside the president sat Susan.

(BNC A0R 1707)

× c. The garden became orderly. A smooth green carpet lay at its centre. **In the shady spots (**there*) flourished hostas**, and in the full sun, nasturtiums, clarkias, stocks and geraniums bloomed.

(BNC A0R 2965)

The following examples in (7) present instances where *there* can be inserted after the initial PP:

(7)

✓ a. So by now you feel your skills are barely born. This is great for the soul but not so hot for business. This time, business was my purpose. Ahead of me was a chancel screen, a filigree of gothic tracery. **To the left (*there*) was a dinosaur of a stone pulpit**, all arched and ornamented.

(BNC A0X 1247)

✓ b. I went into the museum. A sign told visiting gentlemen to remove their hats; it was the kind of sign you'd see in the Duomo in Florence; in some parts of America, war still demands what passes for reverence. **Inside the front door (*there*) was a glass**

case containing the sword, scabbard, swagger stick, cap and uniform shirt of Manuel Noriega. I couldn't help myself; I laughed out loud.

(BNC ABS 540)

✓ c. He had to go through the shopping centre to get there, and the market-place. The market-place was used as a car-park. As he walked between the lines of cars he saw that one of them was parked so it was sticking out. Looking at it he saw that it was Mrs Wright's. He looked in. **On the back seat (*there*) was a sack of grain and a box of cartridges.** He was curious about them. Was it rats or dogs she was going to shoot? Or both.

(BNC ABX 1252)

From these instances above, we can see that the acceptability of inserting *there* in locative inversion varies across different sentences. In the following (sub)sections, I will list some possible reasons why in some sentences *there* cannot be inserted.

4.3.1. Reason #1: the verb is not *be*

4.3.1.1. *There*-constructions overwhelmingly have *be*

These and other BNC data show that if the verb is not *be* as in (6), it is rarely possible to insert *there* into a locative inversion construction. This constraint shows that there is a strong correlation between the presence of *there* and the verb *be*. Only 9 out of 250 in existential *there* sentences show verbs other than *be*, and those 9 instances only have 5 different verbs among them: *remain, exist, appear, seem, come*.

4.3.1.2. Hybrid constructions overwhelmingly have *be*

Interestingly, if we consider the 216 instances of the hybrid construction PP + *there* + verb in the corpus, only five of these take verbs other than *be*: *intervene, live, float, remain, exist,* with two of them (*remain*, *exist*) overlapping those found in the existential *there* construction. One reason could be that verbs like *flourish* in (2), *shine* in (6a) and *sit* in (6b)

express some nuance of meaning beyond just existence, which is why they are not compatible with existential *there*.

Nonetheless, the presence of *be* does not by itself license *there*-insertion in locative construction, so reason #1 cannot be the full story. Even if the verb is *be*, it does not always follow that *there*-insertion is felicitous, witness (8) below.

4.3.2. Reason #2: the subject in the locative is not of the right type

In these cases, the subject is a definite NP, which seems to be the reason why *there* cannot be inserted:

(8)

× a. The Suffolk farmhouse was nothing if not practical. The storage and preparation of food took place on the north side, where the Eastons have made a studio out of the old pentice, called the tempting shed, which ran along that side. **On the north-east corner (**there)* is the cellar,** complete with winter bee boles and a drainage channel out to the moat. The original dairy, with copper and other traditional fittings, is now their kitchen, releasing the farm kitchen as a delightful breakfast room complete with roaring fire and well-worn pamments on the floor.

(BNC A7D 2023)

× b. We are in the Old Vicarage farm now, which Johnson describes as a pretentious heap of shit built to impress the local peasants. It is large and grey and chilly but surrounded by beautiful land. They have a mobile cordless phone and post-it yellow reminder stickers above the old hearth saying No Smoking. The place is full of the aroma of Spot-Knee, the ram lamb who recently copped it after a blissful organic life. **On the wall *(*there)* is the Soil Association certificate** showing that no nasty pesticides have been used on the farm for two years. You can't be green without one.

(BNC AAF 756)

Definite NPs usually indicate old information, and existential *there* mostly introduces the existence of an entity that is not known by the hearer in this context, which might be the reason why locative inversion is a better choice here compared to the hybrid construction. However, interestingly, Seoane (2012) argues that givenness is a notion that is hard to define, she argues that referential distance cannot alone determine the information status, rather, world knowledge and its combination with contextual information is of much importance. Ward and Birner (2006) argue that there are three conditions that license definite NPs appearing in the *there*-construction when the definite NPs represent hearer-new information. For example, in (8), *the cellar* and *the Soil Associate certificate* are new to hearers, as hearers have not encountered this information in the previous context and it is not inferable from the discourse. Ward and Birner (2006, p. 166) categorise such NPs as 'false definites' as they do not represent any identifiable or individuable information in the current discourse. One explanation for the existence of such false definites is proposed by Breban (2012), who argues that morphologically definite NPs such as the *this*-NP in a sentence like ''There once was *this* sharp Chicago alderman who also happened to be a crook'' do not necessarily denote identifiable referents; instead, the use of *this* is to inform the reader/ hearer that the referent will possibly become important in the subsequent discourse. Similarly, the information provided after the definite NP in these examples can licence the use of *the*, so that *the* in effect signals to the reader/hearer that the NP will be followed by information that will allow the reader/hearer to identify it.

4.3.3. Reason #3: role of following context more generally, connected to function of *there* as topic introducer

One reason why *there* can be added or left not is the proposal that *there* functions as a stage introducer, presenting a new stage for the following context; existential *there* would, in effect, function as a topic introduction device for the subject NP. When a topic has been established, the following context will tend to be about this referent, so that topic persistence is often used as a diagnostic for identifying a construction as having a topic-introduction or topic-promotion function (Gregory & Michaelis, p. 2001). In the locative inversion construction under discussion, whether *there* can be inserted or not might have

something to do with whether or not the following subject is a new topic. If this is the case, we would expect this topic to persist in the next stretch of discourse. Givón defines topic persistence as "the number of times the referent persists as an argument in the subsequent 10 clauses following the current clause" (1984, p. 908). In other words, if the referent of the postverbal NP is still an argument in the following context, and that fact correlates with when *there* can be inserted, that would support the hypothesis that *there* is functioning as a topic introducer.

It is found that in the example (7c) where *there* can be inserted into the locative inversion, the following context is a conversation focusing on the sack of grain and box of cartridges, which then will suggest that *there* is functioning as a topic introducer. Nevertheless, examples from more data need to be investigated to further support this hypothesis.

4.4. Omitting *there* from the hybrid construction

In the following test, the aim is to try to find out whether, when *there* is left out from the hybrid construction, the sentences will still be felicitous and why. By omitting *there*, it turns the hybrid construction into locative inversion, making the function and the importance of *there* hopefully clearer.

If we turn to the hybrid construction, we find only a few instances that allow *there* to be omitted without becoming infelicitous:

(9)

- ✓ a. Jökulsárlón is a beautiful place. Close to the sea Breiamerkurjökull, a broad flat snout of Vatnajökull, dies into this lake, the melt water exiting along a wide, fast channel into the sea. **On the southern side ~~there~~ is a tern colony**, and the birds hover above our heads like noisy butterflies while we pad carefully between groups of their precious eggs.

  (BNC A6T 714)

- ✓ b. The entire garden is organic; and any new idea that the Prince picks up in his travels, he immediately tries out at home. The walled garden is divided by stone-chip

paths with neat low box hedges, and there are flowers and herbs growing alongside the vegetables. **In the middle ~~there~~ is a little pond with a fountain**, and the golden carp that swim in it are so tame that they come at the sound of Dennis's voice.

(BNC A7H 802)

Even in these two examples, the result of *there* being omitted appears to be awkward and not entirely felicitous.

4.4.1. Reason #1: negation

In some cases, it seems clear why *there* cannot be left out. In (10), the reason appears to be the presence of negation:

(10)

× Among the gentler meadow plants, you must avoid the more invasive, weed-like pasture flowers, despite their potential for attracting wildlife. Creeping thistle, haunt of the charming meadow brown butterfly, can become a real pest if it gets a foothold.

In a rough lawn ~~there~~ is no place for meadow cranesbill, pig nuts, lady's smock and others of similar character which need a longer growing season. These are installed in borders on the lawn outskirts. Remarkably, cowslips spread seedlings into the mown area, which indicates their preferred habitat.

(BNC ACX 1082)

It has been argued that negation is not permitted in locative inversion (Aissen 1975: 9; Bresnan 1994: 88), cf.:

(11)

× On the wall **never** hung a picture of U.S. grant.

(Aissen, 1975, p. 9)

There are 28 instances out of the total 216 examples where *there* cannot be omitted due to the negation. The reason might be that the initial locative phrase is expected to function as a stage introducer to something that exists, so if the entity does not exist, then the locative inversion cannot serve this purpose. On the contrary, existential *there* can always have negation, as in “There is no place for hate crime in the UK”, “There is no room for more books”.

4.4.2. Reason #2: when the location is an event, not an entity

One of the other cases where omitting *there* makes the utterance less felicitous is (12):

(12)

? Appropriately it kicks off on the stroke of midnight tomorrow with a pyrotechnic extravaganza likely to distract even the most serious Hogmanay party-goers. Six fireworks displays will simultaneously usher in the new year.
In the city centre ~~there~~'s a massive Hogmanay party at George Square for those lucky enough to hold tickets. Starting at 10pm, it features the River Detectives, Urban Sax, Tommy Smith, Hue and Cry, Robbie Coltrane, Runrig, Aly Bain, Lulu and many others.

(BNC AAV 731)

It seems that the reason why *there* cannot be left out is that the NP is an event rather than an entity. Events are not entities that exist permanently in the referred region, so its description requires references to time in addition to space.

4.4.3. Reason #3: the plural

In another example, omission leads to a result that is possible, but less felicitous:

(13)

? The vegetation turns out to be more sparse than we had imagined. It comprises stunted birch trees in the main, each tree with a mass of leaves. I am puzzled. Surely here, with day-long sunshine, there is no need for so many, and surely they just add to heat and water losses? **Under the trees ~~there~~** is a luxuriant mass of grass and moss beneath which numerous streams flow.

(BNC A6T 1588)

It seems that if *there* is left out, the plural noun inside the PP will make it slightly more difficult for the hearer to locate the exact region and location which the speaker intends to introduce. In this case above, the effect is not very clear, but the plural noun inside the PP could be a potential reason why the speaker/writer uses the hybrid construction rather than locative inversion. However, the reason of the infelicity in this sentence could also be that the subject noun inside the PP is an unlikely topic that will persist as such in the next discourse unit.

More interestingly, in the 31 instances of plural nouns inside PPs in the 250 sentences, it is also found that when the noun is plural while the postverbal subject is singular, omitting *there* seems less felicitous, see (13). By contrast, when the noun in PP and the postverbal NP are both plural, omitting *there* will be more felicitous, see (14):

(14)

✓ At the Dollis Hill factory the conditions were the same as elsewhere at Grunwick. **On two sides ~~there~~ were offices for the management and they can watch you and the supervisor or foreman can watch you as well.** He moves round and keeps an eye. Everyone would be paid a different wage so no one knew what anyone else was getting.

(BNC A6V 1361)

4.4.4. Reason #4: location is proper name, introduction of Webelhuth's plan model

When the preposition is followed by a place described by a proper name in the hybrid construction, as, for instance, *in London*, *within the UK*, existential *there* can rarely be omitted; in other words, the hybrid construction seems to be the only possibility under this circumstance.

The reason may have something to do with Webelhuth's Plan Model (2011) for locative inversion, which suggests that the hearer has to locate the place, and then wait for the speaker to update the Common Ground about what can be seen from that vantage point. The hearer is oriented towards what the speaker can see, as if they are looking over the speaker's shoulder, which poses restrictions of its own on the location: it should be **surveyable** (be able to be surveyed). In the case under discussion, the setting of the event expressed by the adverbials of space—the location might be relatively vast or less specific, so that it could be difficult or even impossible for the hearer to locate the speaker's viewpoint:

(15) a. **In the United States there is more new money,** the social structure is different, and the tax regime encourages private giving.

(BNC A4G 239)

b. **In Haigh Park there is an industrial trail incorporating coal-mining remains,** and including the re-erected winding gear of a local pit, and the scene of illicit open-cast mining during the 1926 General Strike. There are also signs of early glass works and mine railways, but the chief monument here is the Great Haigh Sough, begun by Sir Roger Bradshaigh in 1652 to drain water from his mines, and one of the oldest such systems in the area.

(BNC B0A 1134)

4.5. Instances of locative inversion and hybrid construction

The following two tables show the instances of locative inversion and hybrid construction with proper names of places in the PP position.

Table 4. 1: Instances of PPs that indicate names of places in locative inversion:

Filename	**Instances (with illustrations in *italics*)**		
A5X 59	Beside	the Mauritshuis *(an art museum in Hague)*	is the Binnenhof…
A64 1209	Through	Samara *(layout)*	passed the chief railway lines from Siberia…
A68 540	At	Pembroke College	was Edward Wynn…
A6B 1169	Behind	Sweeney Agonistes *(a book)*	lies Rivers…
A7D 1931	At	5 Woolley Street	live Richard and Pamela Nadin…
ABJ 3896	Into	Japanese hands	fell Rockefeller Centre in New York…
AHK 1536	Across	the River Esk	is a whale's jawbone arch…

		(a river in East Lothian, Scotland)	
AL3 1665	Over	the Golden Gate Bridge	are the hills of northern Sonoma County…
AMC 330	At	Bletchley *(a town in England)*	were two Professors of the University of Edinburgh…
APT 449	In	the St John Nepomuk Chapel	are paintings and frescos by V. V. Reiner from about 1730.

Table 4. 2: PPs that indicate names of places with proper names + *there* + verbs instances:

Filename	**Instances (with illustrations in *italics*)**		
A04 112	From	Germany	there is …
A28 483	In	Greater Los Angeles area	there are
A3A 419	Throughout	Britain	there is
A4G 239	In	the United States	there is
A64 111	In	all Belorussia	there were

A6A 1865	In	the UK	there is
A6C 997	At	the Trocadero *(an area in Paris)*	there were
A6T 438	Beyond	Geysir *(place name)*	there is
A77 1529	In	Ulster	there are
A7K 649	In	Wolverhampton	there is
A83 25	Throughout	Western culture	there is
A8F 339	In	the West End	there are
A8W 137	In	this Europe	there is
AAU 205	On	the Bulevard Republicii	there are
ABJ 4184	In	Germany	there are
ABK 1214	On	one Kuwaiti count	there were
ABP 113	Under	the commonwealth	there were
ABU 1664	Outside	Whitehall	there was

ADC 179	At	Philippi	there were
ADK 1472	In	the United Kingdom	there is
ADP 1240	In	Vienna	there is
AE9 665	In	Essex	there was
AE9 1278	On	the New Forest	there are
AHX 1157	At	British Leyland	there was
AJA 1196	At	Exmouth	there are
AK9 931	At	Tory headquarters	there was
AKE 31	Across	Europe	there is
ALE 46	In	Northern Territory	there were
ALH 2414	Behind	Claypole Ridge	there is
ALT 500	In	Spain	there was
ALV 126	In	the Benedictine frescos	there was
ALV 1366	Within	the UK	there is

AM8 199	Within	the former Soviet Union	there remains
AMC 245	In	Wolverton	there were
AMD 912	In	Limone	there are
AMK 58	In	the wider Europe	there is
AMK 141	In	Germany	there is
AMM 753	In	the Palaeozoic rocks *(not a place name, it means rocks of this geologic age in general)*	there were
AN0 20	In	Britain	there are
AN3 321	In	several Latin American countries	there is
AN9 844	In	the South-East	there was
ANB 182	In	Milan	there were
ANB 338	In	Roman Mediolanum	there was

ANJ 113	In	England	there is
APD 1157	In	Gaza	there was
APE 980	In	the two West Midlands boroughs	there was
APE 1015	Outside	London	there was
AR0 1218	At	Montego Bay	there was
AR0 1533	In	China	there were
AR0 1692	At	Khartoum North	there were
ARJ 867	In	the US	there is
ASF 259	Throughout	Iranian thought	there was
ASS 777	In	Waitrose (*more generally as a shop*)	there were
ATG 575	In	Kosovo	there is
B02 432	In	the UK	there are
B02 737	In	France	there are

B02 1042	In	Site Classe *(a website)*	there is
B0A 1134	In	Haigh Park	there is
B0A 1902	In	London Road	there is
B0K 1501	In	neighbouring Alsace	there is
B0W 282	In	Newham	there was
B0W 287	In	Ipswich	there was
B1E 515	In	Jamaica	there is
B1F 698	In	the Himalayas	there is
B1G 1275	In	the UK	there is
B1H 163	In	Britain	there are
B1H 205	In	southern Britain	there are
B1H 817	In	Breckland	there is
B1H 1454	At	Falkirk	there are

B1H 2352	Alongside	the Manchester Ship Canal	there were
B1M 142	Throughout	Northern Ireland	there are
B1N 516	In	the Museum *(inside)*	there is
B1U 660	In	Newcastle	there was
B1W 563	In	most LDCs *(least developed countries)*	there is
B23 113	In	Lincolnshire	there are
B29 1777	Outside	the Gallery *(a specific one)*	there is
B2E 1342	In	Wealden Sussex	there were

The places in Table 4.2 appear to belong to the following categories: 1, continents, such as *Europe, Latin America*; 2, countries, such as *UK, US, Spain*; 3, cities, such as *Vienna, Essex*; 4, areas, such as *Geysir, the Trocadero, Haigh Park*; 5, indoor places, such as *Waitrose, Museum, Gallery*; 6, other abstract places, such as the *Commonwealth, Tory headquarters*.

From the instances above, it can be seen that when the places are not physically surveyable as in Table 4.2, the hybrid construction is favoured over locative inversion, and some NPs of

abstract entities such as *Western culture, Commonwealth* among those instances also fall into this category where *there* seems to function as a stage introducer. While in locative inversion, the PP needs to be surveyable. It seems that the one in Table 4.1 "*Into Japanese hands fell Rockefeller Centre in New York…"* should be put into category 6 as abstract places, where *there* should exist after the PP, but it is in fact a metaphor, so it is still surveyable like the PPs in other locative inversion sentences.

The analysis above shows that the hybrid construction is more than a mechanical combination of locative inversion and the existential *there* construction; surveyability appears to play an important role in the felicitous use of the hybrid construction. The next section will discuss surveyability in more detail.

4.6. Survey-ability and perspective in locative inversion

4.6.1. Introduction

There are two instances in Tables 4.1 and 4.2 that are very similar but use different constructions:

(16) a. **In the Museum there is a little booklet** published by the Tobermory Branch of the WRI on the occasion of its Golden Jubilee.

(BNC B1N 516)

b. **In the St John Nepomuk Chapel are paintings and frescos** by V. V. Reiner from about 1730.

(BNC APT 449)

The reason why (16a) uses the hybrid construction while (16b) does not seems to be that when a person is inside the museum, it is difficult to have an overview of the whole place, as museums are normally divided into different sections; whereas a chapel is always of a size that a person could be able to have a full view of the inside. This effect is more interesting if we see the example in (17):

(17) **Through Samara** passed the chief railway lines from Siberia and Central Asia, bringing in diseases of all kinds from the east.

The PP in the sentence (17) "**Through Samara"** seems to contain a place that is not surveyable at a single glance, as it is a city. A closer look will reveal that the story is about how some diseases have been passed on to people, so the perspective offered to the reader is that of a map that is surveyable.

At this point, it seems that the locative inversion and hybrid constructions share a PP with the same function at the discourse level, in that the PP in both constructions must contain a location that is surveyable. When the location is not surveyable, *there* has to be inserted to help the hearers to locate the place. It is safe to assume that the hybrid construction is the locative inversion with an additional *there* inserted into it due to the surveyability reason.

4.6.2. Displaced speech effect is the main difference between locative inversion and deictic *there*-construction

Webelhuth (2011) emphasises that locative inversion has a distinctive set of grammatical and usage characteristics, setting it apart from any other construction in the English language; all of these have been noted by other scholars, as we saw in the literature review (i.e., unusual word order: PP-V-LOGICAL SUBJECT; no negation; the verb must be intransitive; the logical subject must be a full NP and not a pronoun; and the relative familiarity constraint also noticed by Birner and Ward (1998)). What is new, however, is the property of 'Displaced Speech' effect; the displaced speech property of the locative inversion construction was first put forward by Drubig (1988, p. 87). In linguistics, "Displaced Speech" is considered to be one of the "design features" of language that sets it apart from other animal communication systems. It is defined by the *Concise Oxford Dictionary of Linguistics*, 3rd edition (Matthews, 2014) as "Speech referring to objects etc. which are not part of its immediate setting in space and time." It refers to the fact that this construction is usually used in situations where the speakers/writers have "privileged sensory access" to the situation to be communicated (Webelhuth, 2011, p. 86). In other words, speakers/writers describe where they are and then convey what they can see or hear from

that position to the hearer/reader. Locative inversion shares many similarities with another inversion construction that is called deictic inversion, except the 'displaced speech' effect.

Deictic inversion is another type of inversion that has been illustrated by Lakoff (1987, p. 468); it contains deictic pronouns *there* or *here*, which do not function as the subject, but denote the information of the place or region, see (18):

(18) **Deictic Inversion**

- Here come the robot lawyers.
- There goes the bus ...
- There's my Dad with a bunch of cowboys ...
- Here came the waitress. She had on a mini-skirt, high heels, see-through blouse with padded brassiere.

(Kay & Michaelis, 2017)

In the Deictic Inversion construction, the speaker presupposes that the hearer is unaware of or not focused on the content about to be conveyed by the postverbal NP. The speaker employs deictic inversion by simultaneously pointing and verbalising the sentence. This dual action is intended to direct the hearer's attention to a specific spatial region deemed crucial to the conversation. The hope is that the hearer will mentally incorporate a representation of this particular space into their overall understanding (Webelhuth, 2011). Similarly, one of the main goals of locative inversion is also to make the location/region denoted by the preverbal PP salient to the hearers, creating a spatial mental model and then adding an object inside the region of this model, which is similar to the deictic inversion construction. For example, as in (19):

(19) **Outside the kitchen were brambles and thistles** as far as the eye could see.

(BNC A0R 914)

In order for the speaker to convey the information about the *brambles and thistles* effectively, the speaker needs to draw the hearers' attention to a region the *kitchen* and then add the *brambles and thistles* in this region to finish the whole process, updating the mental model of the hearer.

4.6.3. Webelhuth's Plan Model

Humans as rational agents are considered to have very complex plans in order to reach their goals, and speech activity is one of the events that involves such a plan to achieve its communicative goals.

In the plan model adopted by Webelhuth from artificial intelligence, the model for locative inversion is more complicated than the deictic inversion construction (see Table 4.3) in that it aims to get the hearer to build a spatial mental model from the perspective of the observer (inferred from context) and to apply it at least twice.

Table 4. 3: The plan associated with the use of deictic inversion

PRECONDS	s0: located-in (obj,reg)	
KNOW	s1: visually -accessible (reg, hear)	s2: ¬salient (obj, hear)
ACTS	s3: point-at (speak, reg)	s4: verbalize (speak, PP)
	s5: overlap (s3, s4)	s6: verbalize (speak, VP)
	s7: follow (s6, s4)	
GOALS	s8: salient (reg, hear)	s9: scan (hear, reg)
	s10: add-smm (hear, persp:hear, item:reg, to:)	
	S11: overlap (s3,s4,s8,s9,s10)	

	s12: salient (obj, hear) s13: know (hear, s0) s14: see (hear, s0) s15: add-smm (hear, persp:hear, item:obj, to:reg) s16: overlap (s6, s12, s13, s14, s15)

- **S=situation, obj=postverbal NP subject, reg=region, speak=speaker, hear=hearer, smm=spatial mental model, persp=perspective**

More specifically, the region is uttered and added to the mental model and then an entity is added to that region. At this point, the hearer should know that the region contains the object and that this situation is known by the observer, and then the hearer needs to update her own spatial mental model by adding the object to the region (Webelhuth, 2011).

Table 4. 4: The plan associated with the use of locative inversion

PRECONDS	s0: located-in (obj,reg)
KNOW	s1: vis-accessible (reg, obs) s2: concept-accessible (reg, hear) s3: ¬salient (obj, hear)
ACTS	s4: verbalize (speak, PP) s5: verbalize (speak, VP) s6: follow (s5, s4)

GOALS	s7: salient (reg, hear) s8: add-smm (hear, persp:obs,item:reg,to:) s9: overlap (s4, s7, s8) s10: salient (obj, hear) s11: infer (hear, see(obs, s0)) s12: add-smm (hear, persp:obs, item:obj, to:reg) s13: overlap (s5, s10, s11, s12)

- **s=situation, obj=postverbal NP subject, reg=region, speak=speaker, hear=hearer, smm=spatial mental model, persp=perspective, obs=observer**

By doing so, the hearer now knows that the observer (inferred from context) has the knowledge of the object being located in the region denoted by the PP.

As Webelhuth puts it in his paper:

> "its use presupposes that obj is located within region reg (= s0) and that the speaker knows that this region is visually accessible to an observer who needs to be identified from the discourse context (= s1). Moreover, the speaker knows that the region is conceptually accessible to the hearer (= s2), perhaps because it can be linked to or its existence inferred from the current state of the discourse model in conjunction with world knowledge. As in Deictic Inversion, the object obj is not salient to the hearer when the Locative Inversion sentence is uttered (= s3). The speaker now utters the PP followed by the VP (e.g., To my left sat Harriet.) (= s4–s6) in pursuit of the following goals: to make the region reg salient to the hearer and to get the hearer to add this region to the hearer's spatial mental model immediately (= s7–s9). Note that — unlike in Deictic Inversion — the hearer's spatial mental model does not take the hearer's own perspective, but instead the perspective of the observer obs to be provided by the discourse context! Overlapping in time with the act of uttering the VP, the object obj should become salient to the hearer (= s10), the hearer should infer that the observer obs sees the situation s0, namely that the

region reg contains the object obj (= s11), and the hearer should update her spatial mental model by adding obj inside of reg (= s12)."

"In sum: as in the use of Deictic Inversion, the speaker wants the hearer to construct a spatial mental model in two steps in Locative Inversion. But whereas in the first plan, the hearer builds a mental model of what she herself is seeing, in Locative Inversion she builds a model of what the speaker claims an observer is seeing, where the observer needs to be inferred from the discourse context."

(Webelhuth, 2011)

Below is how plans in artificial intelligence work in general:

(20)

- ❖ Typical Properties of Plans

a. They have preconditions for application.
b. They require agents to have certain beliefs and intentions.
c. They impose sequencing constraints on acts.

(Webelhuth, 2011)

According to the illustration of the Locative Inversion plan model, an attempt has been made to establish a plan model for the hybrid construction. See Table 4.5:

Table 4. 5: An attempt to construct a plan model of the hybrid construction

PRECONDS	s0: located-in (obj, reg)
KNOW	s1: ¬vis-accessible (reg, obs) s2: concept-accessible (reg, hear) s3: ¬salient (object, hear)
ACTS	s4: verbalise (speak, PP) s5: verbalise (speak, *there*) s6: verbalise (speak, VP) s7: follow (s6,s5,s4)

GOALS	s8: salient (reg, hear) s9: add-smm (hear, persp:obs, item:reg,to __) s10: overlap (s4,,s5,s8,s9) s11: salient (obj, hear) s12: infer (hear, see(obs, s0)) s13: add-smm (hear, perpsp:obs, item:obj, to reg) s14: overlap (s5, s6,s11,s12,s13)

Adapted from Webelhuth (2011), this plan model presupposes that obj is located within region reg (= s0) and that the speaker knows that this region is not visually accessible/surveyable to an observer who needs to be identified from the discourse context (= s1). Moreover, the speaker knows that the region is conceptually accessible to the hearer (= s2), perhaps because it can be linked to, or its existence inferred from, the current state of the discourse model in conjunction with world knowledge. As in locative inversion, the object obj is not salient to the hearer when the hybrid construction sentence is uttered (= s3). The speaker now utters the PP followed by *there* and then by the VP (e.g., *Behind the tree there is a boy*.) (= s4–s6) in pursuit of the following goals: to make the region reg salient to the hearer and to get the hearer to add this region to the hearer's spatial mental model immediately (= s8–s10). The hearer's spatial mental model does not take the hearer's own perspective, but instead the perspective of the observer obs to be provided by the discourse context. Overlapping in time with the act of uttering the VP, the object obj should become salient to the hearer (= s11), the hearer should infer that the observer obs sees the situation s0, namely that the region reg contains the object obj (= s12), and the hearer should update her spatial mental model by adding obj inside of reg (= s13).

It should be pointed out that whether this model could be adopted for the hybrid construction needs more data and analysis of this specific construction as it has noticeably unusual attributes.

4.6.4. Perspective taking in general

As I already talked about surveyability in previous sections, this part will talk about two closely related concepts: 'perspective taking' and 'observer'. Perspective taking is the ability to envisage the views other people have in physical space. This concept is widely used in cognitive linguistics; for example, in a commercial event, there are at least two perspectives, one as a buying event and one as a selling event, depending on what attracts different participants' attention. In the three-mountain task conducted by Jean Piaget in the 1940s, it was found that children realise that other people have perspectives different from theirs from the age of eight. A replicated experiment by Helen Borke in 1975 found that children as young as three could show evidence of perspective-taking.

In some contexts of the locative inversion construction, for example, in museum guides or sightseeing, the speaker might use this construction to introduce scenes that are not within the hearers' immediate line of sight, so both of them need to do the perspective taking at some point.

4.6.5. Perspective in locative inversion: whose perspective?

The locative inversion construction is an efficient strategy for taking readers close to the scene. Once the readers have been drawn into the situation in this way, the speaker/writer can easily present the pictures that they want others to see, or even the feelings and thoughts they want to express. In locative inversion, the observer is not necessarily the speaker nor the hearer; it could be either of them or a third party, for instance, the protagonist, depending on the context (Webelhuth, 2011). In some story-telling contexts, the observer is the first-person narrator as in (21), where the narrator is trying to invite the readers or hearers to imagine standing at the point where the writer/speaker stands to take their perspective to see their view.

(21) Quiet!' said the guide, and we all stood still, listening. **From the bushes came a low snort and the scraping of branches**. It was a buffalo, one of Africa's most unpredictable

and dangerous animals, out of sight but just a few feet away from where we were standing.

(BNC A15 753)

The possibility of writer/speaker being the observer as shown in (21) can normally be found in contexts such as sports reporting.

Another possibility is that the reader can be the observer as in (22), irrespective of whether the context is intended for a hypothesised reader or for real hearers. Examples of this case can be found in sightseeing situations when the tour guide has to describe something that might be accessible to the hearers if their attention is drawn to it. The excerpt in (22) is taken from an introduction of a school, which aims to give a brief description of a place to the readers or hearers.

(22) The main east-west wing of the school originally accommodated two classrooms — as at Shawell, divided by a glazed, sliding-folding partition. **Above this central partition lay a heavy timber roof-truss**, supporting the purlins and extending down to suspended ceiling level. As it was impractical to remove this essential structural element, the new first-floor construction had to terminate on this line, so the added floor was restricted to the east side of the central truss.

(BNC A79 843)

In some other story-telling contexts, the observer could be the protagonist as in (23).

(23) Outside the door she paused, breathing the chill and chilling air. **From the school came more music**, the school choir rehearsing for Christmas. She could see the choir through the windows of the Hall: a hundred pupils, rapt, or, at any rate looking rapt, under the vast banner of the G.D.R.

(BNC A7A 1870)

Nonetheless, the identity of the observer in (22) and (23) seems to cover the possibility of the writer/speaker being the observer, and Webelhuth's theory does not provide more information about the clear definition and illustration of the identification of observer.

Therefore, this research will aim to use more data drawing on the opinions from more literature to explore this issue.

4.7. Conclusion

Webelhuth's Plan Model accounts for most of the grammatical properties of locative inversion from a pragmatic perspective. What it does not account for is which verbs can be expected to occur in the locative inversion construction. We saw in the literature review that this was also a problem for a purely syntactic account, as the construction cannot be projected from the lexicon in the usual way without the verb being earmarked for the construction in some way (by belonging to a defined class of verbs, like the unaccusatives, for instance). As we are focusing on constructions that involve the existence and movements of entities, the concepts and ideas in the current research in **cognitive linguistics** might help to shed some light on those issues.

The next chapter will show the details on how I get different datasets for various purposes. From Chapter 5 on it will introduce different frameworks and theories that I have been exploring in order to answer different research questions raised earlier in this project.

5. Coercion and How it Can be Used to Explain the Novel Verbs in Locative Inversion

The points raised in the literature review chapter boil down to a single overarching question: can constructions like *there* and locative inversion be generated following the usual syntactic procedure of projection from the lexicon? In a projectionist approach, verbs are expected to have structured lexical representations, which allows a verb's specific argument structure to determine the configuration of the syntax of the sentence containing that specific verb (Wasow, 1985). Therefore, if the syntax of these constructions is projected from the lexical properties and identifiable groups of verbs can appear in these constructions, no specific mechanisms are required, in which case it is safe to say that a projectionist approach is enough for the issue under discussion. However, as can be seen from Chapter 2, most authors working on these constructions have been unable to identify a generalisation in terms of which groups of verbs can appear in these constructions. This appears to indicate that a projectionist's approach is not sufficient to account for these constructions. The available evidence suggests that it is the construction itself that determines whether a verb is acceptable or not, and may even tweak a verb's semantics to make it fit. This tweaking could be regarded as a form of coercion. The concept of coercion might help to explain why both unaccusative and unergative verbs could appear in the same syntactic construction-locative inversion.

As one of the core frameworks in explaining the research questions under discussion, a thorough survey of coercion will be provided in this chapter. Although many concepts might not be directly related to the verbs in locative inversion that we are aiming to solve, they help us to have a profound understanding of the cognitive flexibility of the human mind and the role of context sensitivity when it comes to complex language processing and comprehension, which in return gives us hints about how coercion works in verbs and constructions.

This chapter is organised as follows: section 5.1 introduces the concept of coercion; section 5.2 outlines the types of coercion in literature; section 3 points out the connection between

coercion and constructions; section 5.4 discusses the theoretical accounts behind coercion; section 5.5 explores how metonymy can be used to explain coercion and finally section 5.6 concludes this chapter.

5.1. Introduction and definition

The mismatch between a lexical item and the syntactic environment it appears in has long been noticed and discussed. To cope with this phenomenon, a concept called **coercion** has been borrowed from artificial intelligence (Levinson, 2000, p. 246; De Swart, 1998, p. 360; Ziegeler, 2007b, p. 99). Coercion originally refers to the situation in which a grammatical form appears unexpectedly in an environment that does not usually select it (Lauwers & Willems, 2011). The syntactic environment can be of various types, for example, a construction, a word class or an aspectual marker, while the grammatical form could be a word or another linguistic element that is not conventionally expected in this particular context. As a result, the grammatical form has to be reinterpreted ("tweaked") in order for the entire linguistic expression to make sense (Lauwers & Willems, 2011). In the early literature (e.g., De Swart, 1980, p. 360), coercion has been described as a phenomenon that is syntactically and morphologically invisible, which means that coerced elements do not display any change in grammatical form. The interpretation of coercion in an utterance is argued to take the specific context into consideration, combined with relevant real-world knowledge, in order to solve the conflict or mismatch (Ziegeler, 2007b; Goldberg, 2019; Michaelis, 2003b; 2005).

5.2. Coercion types

There are mainly three kinds of coercions discussed in literature: **nominal coercion** (Michaelis, 2003a), **complement and subject coercion** (Pustejovsky, 1995), and **aspectual coercion** (Michaelis, 2004).

5.2.1. Nominal coercion

This category mainly involves the mismatch between the nouns and the construction they appear in, and they can be put into two slightly different sub-categories, see examples in (1)

(1) a. You have *apple* on your shirt.

b. She had *a beer*.

(Ziegeler, 2007b)

The sentence in (1a) is categorised as an instance of soft coercion when count nouns occur as bare nouns (Audring & Booij, 2016). This subtle version of a coercive effect is sometimes excluded from the coercion domain, but it is always discussed as a closely related phenomenon. Examples of the same kind include (2):

(2) a. Cut *the lemon* in half.

b. Drizzle *the lemon* over the cake.

(Audring &Booij, 2016)

Lemon in this case can be interpreted as an item of fruit as in (2a), or it can be a liquid as in (2b). It can be seen that from the semantic frame perspective (refer to Section 7.2), the liquid sense of lemon cannot be used in (2a) where the verb *cut* determines the frame.

Example (1b), where the mass noun is used as count noun, is also called **type coercion** (Audring & Booij, 2016). This kind of coercion can change the word class or subclass, for example, a mass noun changes to a count noun, such as *a pudding*, *two beers*; a proper name changes to a common noun, such as 'We've got *three Pauls* in the family' (Audring & Booij 2016, p. 622). Some relational adjectives can also be coerced into qualifying adjectives: 'This building looks very *American*', where the original meaning of American refers to something that is related to America but here it merely means something that has the characteristic of the buildings in America (Audring & Booij, 2016).

5.2.2. Complement/subject coercion

This type of coercion refers to cases where the complement of a verb needs a predicate—a VP, but a single noun appears instead, which could be then reinterpreted as an event based on the wider context and world knowledge. See example (3):

(3) I began a book.

(Lauwers & Willems 2011)

In this sentence, the verb *begin* typically takes a verbal complement such as *I began reading* or *writing a book*, rather than taking a physical object. In this sentence, *book* refers to the event of *reading* or *writing a book*, while the word *book* does not have this indication on its own in a prototypical context, thus it is a coercion rendered by this construction itself (Lauwers & Willems 2011).

5.2.3. Aspectual coercion

This type of coercion refers to the condition where there is a mismatch between the aspectual types of the lexical items and their grammatical environment. There are two kinds of aspectual coercions, the first one is when a perfective lexical aspect appears in an imperfective aspectual sentence, the second one is the other way around when imperfective lexical aspect appears in a perfective environment (Ziegeler, 2007b).

From both a logic and a child language acquisition perspective (see Anderson, 1991), grammatical morphemes are attracted to lexical environments that are most suitable to the specific morphemes, which means that any conflict of aspects that is still interpretable would be a case of coercion. See the example below in (4):

(4) Peter *is believing* in ghosts these days.

(Ziegeler, 2007b)

The verb *believe* is a stative verb but somehow being coerced into a progressive aspect. This is a case of coercion because it has been argued that the progressive aspect itself has a

stativising effect that already makes non-stative verbs have a stative sense. The progressive aspect itself means 'someone is doing something', it can make something static as being doing something, so in this case, *believe* is already a verb of a state of believing, therefore there is no need to use progressive aspect. Thus, stative verbs such as *believe* appearing with this aspect is redundant and grammatically unnecessary (Ziegeler, 2007b; Vlach, 1981). These uses actually perform a discourse function, i.e., the function of stance-marking (Levin, 2013).

5.3. Coercion in constructions

The concept of coercion aligns with Construction Grammar's main arguments, asserting that a specific syntactic pattern carries meaning beyond the mere combination of lexical meanings of its individual linguistic elements (Audring & Booij, 2016; Lauwers & Willems, 2011). In coercion, the construction seems to have its own independent holistic meaning that can override the meaning and the syntactic configuration of the lexical items (Lauwers & Willems, 2011, p. 1220). As Michaelis (2011, p. 1383-1384) puts it, any construction can potentially trigger coercion 'if it selects a specific lexical class or phrasal daughter'. An example given in Audring and Booij (2016) is the *(all) x-ed out* construction in (5):

(5) a. Just in case you're not *all Biebered out* already, here's the full studio version of "mistletoe". (referring to a Justin Bieber recording)

b. By midnight:30 I was *all Amsterdammed out*.

(Audring & Booij, p. 2016)

This construction usually has a verb in it which means 'exhausted from X-ing to excess'. When a noun appears in this construction, this meaning is extended to 'exhausted from experiencing X to excess' (Jackendoff, 2013, p. 89), which is a case of coercion (Audring & Booij, 2016, p. 624).

5.4. Theoretical accounts

There are mainly three theoretical mechanisms to account for the phenomenon of coercion: **selection**, **enrichment** and **override** (Audring & Booij, 2016), which will be listed in this section.

5.4.1. Selection

It has been argued that the meanings of words are usually not monosemous which means that the same words might have different senses in different contexts (Pustejovsky & Jezek, 2008; Pustejovsky, 2011). In the case of coercion, a mismatch between a word and the context it finds itself in forces the hearer to select the most suitable meaning for the interpretation in order for the expression to make sense. Such phenomena are also called cooperation, or co-composition by Pustejovsky (1991; 1995) in that it is a cooperation mechanism between lexical and phrasal meaning. See example, in (6):

(6) a. John *baked* the potato.

b. John *baked* the cake.

c. Mary left school after *lunch*.

d. Mary brought *lunch* to school.

(Audring & Booij 2016)

The verb *bake* in fact has two slightly different denotations, as in (6a), *bake* denotes a change of the state of something, whereas in (6b) it means to create something from other things (Audring & Booij, 2016, p. 626). In (6c) *lunch* means an event but in (6d) it means the entity of food; the difference is very subtle, yet it shows the dynamic interaction between construction and verbs. This mechanism also explains the sentences in soft coercion in (1a) and (2) when *lemon* has two denotations as the *fruit* and the *liquid*.

5.4.2. Enrichment

This mechanism gained its name because sometimes the construction adds extra meaning to the compositionality of the lexical items (Audring & Booij, 2016). A typical example of this kind would be the complement coercion as mentioned above in (3), here repeated as (7a):

(7) a. Mary began the book.

b. The light flashed until dawn.

(Audring & Booij, 2016)

In (7a), the interpretation is *Mary began reading/writing the book*, the interpretation of the sentence is enriched by an implicit semantic operator—the lexical items to denote *write* or *read* sense. The second instance as in (7b) is a case of aspectual coercion in that *flash* is a punctual event but *until* refers to an ongoing event, so in order for this sentence to be felicitous, the construction enriches the semantics of the utterance without any corresponding addition of an explicit phonetic form (Audring & Booij, 2016).

Examples of coercion in the literature that is rendered by the mechanism of enrichment also includes the construction shown below, see (8):

(8) I'm done with...

- the windows
- the letter
- the salt
- the taxes
- ...

(Audring & Booij, 2016)

This is a complement coercion in that this construction usually necessitates an activity predicate as the complement rather than a nominal referent. For instance, the

interpretation of the first sentence should be *I am done with cleaning the windows*, the second one could be *I am done with reading/writing the letter* (Audring & Booij 2016, p. 618-619). This construction coerces the nouns to represent the meaning of the activity predicate without explicitly expressing the complement.

5.4.3. Override

An override principle was proposed by Michaelis (2003a) to suggest that the semantics of the construction can prevail over the semantics of the lexical items, see:

> **Override principle:** if lexical and structural meanings conflict, the semantic specifications of the lexical element conform to those of the grammatical structure with which that lexical item is combined (Michaelis, 2003a, p. 10).

In other words, the meaning and properties of lexical items are susceptible to be modified by bigger linguistic forms such as idiom patterns, phrases, constructions in which they appear, as in the example mentioned above, repeated here as (9):

(9) We've got three *Pauls* in the family. (proper noun> common noun)

(Audring & Booij, 2016)

In this sentence, the construction coerces "Paul" into a common noun, allowing it to take the plural form, demonstrating that the construction overrides the inherent properties of the lexical item. Another example related to override principle is (10):

(10) This is so *2008*.

In (10), the year *2008* functions as an adjective to express the meaning of being outdated, old-fashioned instead of anything that has specifically happened in the year of 2008. More importantly, the slot in 'so ...' can be any year that is earlier than the current year of the utterance, such as *this is so 1920s*, *this is so 1980s*. In the construction, the idiomatic meaning of the construction overrides the lexical semantics of the words inserted in it and forces it to mean 'outdated and old-fashioned' (Audring & Booij, 2016).

5.5. Coercion and metonymy

In order to account for the coercion from a cognitive perspective, the concept and operation of metonymy are worth noting as it plays an important role in many cases of different types of coercion. Metonymy also operates according to the mapping of image schemas, which will be elaborated when we talk about image schemas in Section 8.3.

The relationship between coercion and metonymy is mainly developed to argue that these two phenomena share many similarities (Ziegeler, 2007b). More specifically, in both cases, the reader has to restore the interpretation by applying extra-linguistic real-world knowledge to the context under discussion, and the metonymic inferencing is obviously found in many cases of coercion. For example, the nominal coercion can be explained from the perspective of metonymy which involves the maxim of quantity in Grice's Cooperative Principle that the speaker utters less than what the utterance implies (Ziegeler, 2007b). Other cases of coercion which are also proposed to be explained by metonymy will be detailed in the following sections.

5.5.1. Definition of metonymy

Two types of metonymy have been proposed in the literature and both of them play an important part in the operation of how one thing can be related to another.

Metonymy is intimately connected by the way we (de-)construct meanings. Prototypical meanings are deconstructed in a relatively loose way. The concept of *bachelor,* for instance, can be deconstructed as an adult unmarried male. However, this definition is more of an ideal situation of being a bachelor than it would be in the real world with its wide range of possibilities of social statuses. Some potential cases where people might doubt the applicability of the concept of bachelor have been tested by means of a survey, and are listed in (11) (Croft & Cruse, 2004: 28), even though all these cases share the characteristics of adult unmarried male:

(11) The pope

Tarzan

An adult male living with his girlfriend

A male homosexual

A male homosexual living with his boyfriend

A seventeen-year-old living on his own, running his own internet firm, and dating several women. [cf. A seventeen-year-old living with his parents and going to school, who virtually all agree is not a bachelor]"

(Croft & Cruse, 2004, p. 28)

These examples demonstrate that there is a frame (Fillmore, 1982) for what a bachelor would be, but this frame is an idealised version of the world which is not able to take all the possibilities in the real world into consideration, as the real-world situation is far more complicated than the definition. This idealised frame is called **Idealised Cognitive Model (ICM)** by Lakoff (1987, p. 68). To understand that the ICM is a complex frame, the example of mother given by Lakoff (1987, p. 74-76) suggests that the ICM of *mother* is a combination of a cluster of ICMs, see (12):

(12)

- The birth model
- The genetic model
- The nurturance model
- The marital model
- Genealogical model

(Lakoff, 1987, p. 74-76)

The possibilities of modern technology in the field of reproduction make the definition of *mother* even harder to construct, or to decide which model in (12) is the best approximation

of a prototypical mother, and different dictionaries pick different models as the primary definition of motherhood. Thus, the frame of mother can involve different scenarios and cognitive models and they all contribute to the ICM of motherhood.

Taking the ICM into consideration, metonymy is defined by Kövecses and Radden (1998, p. 39) as:

> "[. . .] a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain, or ICM (idealised cognitive model)".

In other words, metonymy requires the interpreter to understand the cognitive connection between two entities within the same ICM, like two lexical items such as *crown* and *royalty*, or part of the construction and the entire construction, such as in *John began the book* and *John began reading/writing the book* (Ziegeler, 2007b).

Other than the definition given by Kövecses and Radden (1998, p. 39) which focuses on the links between conceptual entities, another definition proposed by Barcelona (2003, p. 245) as follows involves the process of mapping:

> "A schematic metonymy is a mapping, within one cognitive domain of a cognitive (sub)domain, the source, onto another cognitive (sub)domain, the target, so that the target is mentally activated."

As can be seen from the definition above, the definition of domain plays the most important role in Barcelona (2003)'s proposal of metonymy, so it is worth introducing this concept first in order to better understand it. Domain is argued to be the coherent background knowledge or conceptual structure against which a certain concept or concepts can be understood by people (Langacker, 1987). Based on this framework, to understand the concept of RADIUS, one has to have the knowledge of the concept of CIRCLE, and if one understands circle as a complex conceptual structure, other concepts such as ARC, CENTRE, DIAMETER, CHORD, etc. will be easily understood. In this analysis, the background knowledge, the CIRCLE, is called the base, and the new concept to be understood, e.g., RADIUS, is called the profile. Based on the definition and analysis given by Langacker (1987)

of domain, domain is summarised by Croft and Cruse (2004, p. 17) as “semantic structure that functions as the base for at least one concept profile (typically, many profiles).” The concept of domain, as suggested by Croft and Cruse (2004, p. 16-17), is referring to the same theoretical framework as Frame by Fillmore (1982).

Another key concept involved in the definition given by Barcelona (2003) is called mapping. Mapping in cognitive linguistics is a correspondence relationship between one concept, which is called the source concept, to another concept that is called the target concept. In this process, the most important thing is that the internal structure of one concept has to be projected to the other, so that the two concepts end up having the same internal structures. It is a way to conceptualise things in life, for example, the abstract concept of life can be mapped onto *a journey* that can be visibly divided into three stages, *arriving, going through life/journey, and leaving* (Ungerer & Schmid, 2006, p. 118-123). The mapping of life onto a journey is called metaphor which is one of the most commonly used rhetorical devices. In metaphor, the mapping is across domains, as can be seen from the definition above about domain that life cycle and journey are totally different domains; the two domains are not experientially contiguous (Ungerer & Schmid, 2006, p. 115; Barcelona, 2003, p. 240). Traditionally (Kövecses & Radden, 1998; Feyaerts, 2000), the relationship of the source and target in metonymy is not recognised as a form of mapping as they do not have the projection of internal structures as mentioned above. However, Barcelona (2003) argues that in metonymy, the mapping is still happening but within the same **domain matrix**, of one subdomain onto another subdomain, and he argues that while the mapping in metaphor is symmetrical, the mapping in metonymy is asymmetrical. Ungerer and Schmid (2006, p. 130-131) give a clearer explanation, saying that mapping between the source concept and target concept in metonymy is within a socially conventionalised mapping scope that mainly happens to concrete concepts, such as the correspondences of ‘part-whole’, ‘container-contained, ‘cause<>result’ correlations between objects, animals, places, etc. More importantly, context plays an important role in the mapping in metonymy, see (13):

(13) All hands on deck.

#All heads on deck.

(14) The university needs more clever heads.

#The university needs more hands.

(Ungerer & Schmid, 2006, p. 128)

In (13), even though both hands and heads are related to BODY/PERSON and can be seen in the same domain matrix, the key word *deck* determines that this context typically involves physical work which requires hands. The shipping context situationally highlights the metonymic link between HAND and BODY. In contrast, the heads in the second example do not have this interpretation, rendering it infelicitous. However, in (14), the situation is reversed, as the university is typically involved with human intelligence which is linked to heads instead of hands, as the latter would potentially involve more manual labour work (Ungerer & Schmid, 2006, p. 128).

Unlike the traditional view which sees metonymy as a referring relationship between two entities due to the contiguity or proximity of these two items, metonymy is also argued to be a conceptual relationship between concepts instead of words; this is to say that metonymic referencing is not only operating at the lexical level but across the levels of lexis and concepts (Lakoff & Johnson, 1980). This specific type of metonymy includes non-referential metonymy, like the kind that can be seen in indirect speech acts. For example, in the sentence, *Can you pass the salt?* (Kövecses & Radden, 1998, p. 73), the intention of the speaker is not to ask about the hearer's ability, but instead, it is a request to pass the salt (Ziegeler, 2007b). Most importantly, unlike the previous definition by Kövecses and Radden (1998) which only involves lexical items or partial structural ellipsis, this type of metonymy can allow the entire construction to be the source of the mental activation.

The indirect speech sentence *Can you pass the salt?* does not represent a conventional case of metonymy to many readers, however. Thornburg and Panther (1997) propose that speech act metonymies are special cases of metonymies that have a lot of properties in common with more conventional metonymies. They introduce the action scenario theory by dividing a linguistic action into three stages, namely BEFORE, CORE & RESULT, and AFTER. In the indirect speech act, *Can you pass the salt?* it is in the BEFORE stage where the speaker presupposes that the hearer has the salt, and then the CORE & RESULT are when the

speaker puts the hearer under an obligation to provide the salt to the speaker, and then the AFTER will be that the hearer is under an obligation to provide the salt for the speaker. The utterance *Can you pass the salt?* only involves a part of the whole speech process, which is the BEFORE stage, but it invokes the whole request scenario as the hearer will interpret it as a request based on conventionalised communicative principles, and this makes it a case of PART-WHOLE metonymy.

Metonymy facilitates humans' understanding of certain concepts and referents. For example, when one says they need *good heads* in the project, it refers to intelligent people, because heads and intelligence are in the same domain matrix. The point in this process is that a particular part of the human body, *the head*, rather than any random body part has been picked out to refer to the whole person (Lakoff & Johnson, 1980, p. 36). Seven widely accepted categories of metonymy are listed by Lakoff and Johnson (1980, p. 38-39) list, see (15):

(15)

- THE PART FOR THE WHOLE
  We don't hire *longhairs.*
- PRODUCER For Product
  He bought a *Ford*.
- OBJECT USED FOR USER
  The *buses* are on strike.
- CONTROLLER FOR CONTROLLED
  Napoleon lost at Waterloo.
- INSTITUTION FOR PEOPLE RESPONSIBLE
  The *army* wants to reinstitute the draft.
- THE PLACE FOR THE INSTITUTION
  The *White House* isn't saying anything.
- THE PLACE FOR THE EVENT
  Watergate changed our politics.

(Lakoff & Johnson, 1980, p. 38-39)

Metonymy reflects how humans conceptualise one thing by mentally connecting it with other things; it functions beyond merely language but involves thoughts, attitudes and actions which are all rooted in the mutually shared experience of individuals in a speech community or even across communities and languages (Lakoff & Johnson, 1980, p. 39). This conceptualisation helps the operation of coercion, because when we think of one thing, we can think of other things that are related, thus creating mental connections between different referents. How this metonymic referencing facilitates coercion will be illustrated in the following sections.

5.5.2. Mass to count coercion

Mass to count coercion is very commonly seen in everyday use of language, it is a sub-type of nominal coercion introduced in Section 5.2.1 above. See (16)

(16) She had a beer.

(Ziegeler, 2007b, p. 110)

The typical use of this type of coercion is to refer the mass noun to a single serving of the food or drink by adding a numeral quantifier ahead. As argued by Langacker (1986) from the cognitive grammar perspective, mass nouns have several properties, such as homogeneity, expansibility, the count-noun use of mass noun is a result of 'restricting the mass to a bounded quantity' (1986, p. 144), thus the mass noun can appear with a numeral quantifier to restrict the boundaries of the mass substance to make it countable as units. In some other cases, quality can also play the main part in leading the mass noun to become count noun, for example, *wine* as a mass noun could be used as count noun, such as *a sweet wine* as opposed to *a dry wine*.

Other than the properties of the mass nouns as discussed above and the quality aspect of mass nouns, social conventionalisation also plays a key role in deciding the reinterpretation of the target in metonymy of coercion (Ziegeler, 2007b). Drawing on the source and the

target concepts in the definition by Barcelona (2003, p. 245), in nominal coercion in (16), *'a beer'* takes the role of the source, while the metonymic reference of the source could be recovered as *'a glass of beer'*, therefore in this case, it is the social practice of measuring the beer which makes it acceptable to treat the mass noun beer as a count noun (Ziegeler, 2007b).

5.5.3. Count to mass coercion

Count to mass coercion is slightly less commonly seen than mass to count coercion, but it is a good example to show the diversity of coercion phenomena. See (17):

(17) There was rat all over the road.

(Ziegeler, 2007b, p. 110)

The coercion effect in this sentence is obvious when the bounded and replicable nouns which grammatically and conventionally appear with determiners do not take determiners, resulting in it looking like some unbounded entity. According to Langacker's cognitive grammar (Langacker, 1986), count nouns are referred to as object, and mass nouns are referred to as substance. Count nouns have several properties, such as bounded, replicability, but in some cases, the boundary of the referent is not essentially important, so it can be used in an environment which makes it look like mass nouns, such as in (18):

(18) You'll have to stand—there's not enough *bench* for another big person.

(Langacker, 1986, p. 143)

A coercion sentence like the one in (17) is argued to be a case of metonymy (Ziegeler 2007b; Kövecses & Radden, 1998, p. 51); it is generated by using the constitution ICM, that is, when people think of RAT, they can think of the material making up the animal rat (Kövecses & Radden, 1998, p. 51, see also Langacker, 1986). More specifically, it is an OBJECT FOR MATERIAL CONSTITUTING THAT OBJECT type of metonymy in that the rat in this sentence has the denotation of the rat substance or remains that constitute a rat instead of the countable and bounded rats that are normally seen (Ziegeler, 2007b). In this case, as

Ziegeler (2007b) argues, metonymy can operate independently regardless of its syntactic environment and the result will sometimes be the coercion phenomenon.

5.5.4. Complement and subject coercion

5.5.4.1. Complement coercion

Complement coercion also involves metonymic inferencing drawing on the concept proposed by Pustejovsky (1995) named the Qualia Structure of noun phrase (Ziegeler, 2007b), which argues that noun phrases also have argument structure just like verbs, including potentially the relevant encyclopaedic knowledge such as the reference, the purpose, its formal structure and how it is created, etc. Qualia structure is a polymorphic representation of the four most basic properties related to a word's meaning. See the four aspects in Pustejovsky (1995, p. 76):

> CONSTITUTIVE: the relation between an object and its constituent part;
>
> FORMAL: that which distinguishes it within a larger domain;
>
> TELIC: its purpose and function;
>
> AGENTIVE: factors involved in its origin or "bringing it about".
>
> (Pustejovsky, 1995, p. 76)

In other words, the qualia structure of a noun contains the essential information that is most related to the noun. Qualia structure helps people to understand the denotation of words as it reveals the events associated with the word. For example, to explain the difference between the nouns novel and dictionary, one has to know the different functional information of them. Although they are both books, the qualia value of *novel* will be [TELIC = reading], whereas for *dictionary* it is [TELIC = consulting], furthermore, the distinction of these two nouns can also be seen from the value of AGENTIVE in how they come into being in that novel is typically written while dictionary is usually compiled (Pustejovsky 1995: 77). Due to the information conveyed by the qualia structure inside the

nouns, the NPs can have different structures which can further affect the possibility whether a VP can contain them or not. Importantly, the interpretation depends not only on the semantics of the word itself, but also on the syntactic environment and context. See once again the example in (19):

(19) John began the book.

(Ziegeler, 2007b, p. 112)

Recall that in this sentence, the hearer/reader has to resort to extra-linguistic real-world knowledge related to the source, *the book*, to reinterpret the sentence in order for it to make sense. The process also heavily depends on the context, in that normally the hearer would suppose that the interpretation is '*John began reading/writing the book'*, but in a different context where John works for a press company, the sentence could mean '*John began binding the book'* (Ziegeler, 2007b). This type of metonymy is categorised as OBJECT FOR AN ACTION IN WHICH THE OBJECT IS INVOLVED metonymy by de Mendoza Ibáñez and Hernández (2001).

5.5.4.2. Subject coercion

Coercion also happens with subjects, see (20):

(20) Books bore me.

(Ziegeler, 2007b, p. 112)

In the sentence, the mechanism also could be attributed to qualia structure, as the interpretation would be '*Reading books bores me'*. The metonymic reconstruction can only take place if the hearer/reader has the real-world knowledge about the noun *books,* in other words, it is the action of reading books rather than the entity of books that can have emotional effect on the experiencer (Ziegeler, 2007b).

5.5.5. Coercion and metonymy in constructions

The cognitive process of metonymy that will be illustrated as follows helps make the generalisation of coercion in certain constructions possible (Lauwers & Willems, 2011; Ziegeler, 2007b), see the examples in (21):

(21) a. He sneezed the napkin off the table. (Goldberg, 1995, p. 55)

b. *??Sam blinked the napkin off the table*. (Lauwers & Willems, 2011, p. 1231)

In the first sentence (21a), the intransitive verb *sneeze* is coerced into the syntactic environment that prototypically needs a verb with three arguments. This coercion works because the verb *sneeze* has metonymic relation with caused-motion construction, whereas the verb *to blink* in (21b) does not. The mechanism in (21a) can be categorised as MANNER OF ACTION FOR THE ACTION metonymy (Ziegeler, 2007a; Kövecses & Radden, 1998, p. 55) and it is argued that all verbs which grammatically appear in the caused-motion construction have to "recover at least a manner or means of transferred motion, to stand metonymically for the motion itself (Ziegeler, 2010, p. 40)" and it belongs to Action ICM. In (21a), the interpretation is that *He moved the napkin off the table by sneezing*, where *sneeze* has the metonymic relation with the manner of the action of moving. By contrast, as Lauwers and Willems (2011) puts it, the interpretation for (21b) *Sam moved the napkin off the table by blinking* does not sound acceptable for most people because the verb *to blink* is not metonymically related to the sense of moving something or causing something else to move, so it cannot appear in this construction.

5.6. Conclusion

To sum up, the metonymic reconstruction in the nominal coercion only takes place at the same syntactic level, that is the lexical level, whereas the metonymic reconstruction in the complement and subject coercion can happen across different syntactic levels, as what has been explained above, the lexical item can be recovered to be an entire clause (Ziegeler 2007b).

The metonymy account for the coercion phenomena listed above is quite plausible, and these cases of coercion including nominal, complement and subject, and construction coercion are well explained by elaborating how the sources are mapped onto the mentally activated targets. At the end of Lauwers and Willems (2011), questions are raised about the ability for the metonymy account to explain some other coercion phenomena, such as concealed questions. In my opinion, although metonymy cannot cover all the instances of coercion, it does provide an appealing perspective for this much-debated concept.

Most importantly, it can be seen from the discussion that the possible metonymic referencing can potentially determine if a certain construction can coerce verbs into it, and as this project investigates three different constructions, the implications of how coercion and metonymy are used in certain constructions can shed light on explaining the novel verb appearances in the constructions under discussion with the insights into mental activation in language processing.

6. Locative Inversion and Verbs

In Chapter 4, I used a data set from a pilot study in order to analyse the felicitous use of the locative inversion and hybrid construction, and to see the difference between these two constructions. In this chapter, I will introduce how a fuller, second data set was obtained to include all the verbs as well as the information of what genres the constructions are most frequently found in. For verbs, the methods will be listed in the next section, for genres, see Chapter 9.

The structure of this chapter is organised as follows: section 6.1 provides the methodology of how the data is obtained; section 6.2 presents the verbs found in locative inversion; section 6.3 interprets and categorises the verbs; section 6.4 discusses the discourse function of locative inversion, section 6.5 concludes this chapter.

6.1. Methodology of mining verbs in locative inversion

To retrieve all the instances of locative inversion, I used the same corpus (the BNC) and the same query as shown in Chapter 3:

<s>_{PREP} (_{ART})* ((_{ADV})* _{A})* (_{N})+ _{VERB} (_{ART})* ((_{ADV})* _{A})* (_{N})+

This retrieved a total number of 8009 instances.

To further filter the verbs out of the raw data, the 8009 instances were tagged by using the 'Free CLAWS web tagger' on the website https://ucrel-api.lancaster.ac.uk/claws/free.html. To do this, first the instances were copied from the BNC and then put into Excel sheets, then copied onto the website, selecting C5 and horizontal options. This annotated the raw data with part-of-speech tags. The verbs received tags with different categories in this process, so were pasted into a Word Document, and by using the Replace function with Word Wildcards, all the verbs variously tagged as VBD, VBZ, VVB, etc. received the uniform tag "_VERB". After all these steps, a txt file with tagged sentences were ready to be read by Antconc.

The next step was to use Antconc to process the data, so that the less frequent verbs, the "outliers", can be identified. First, in Antconc, I created "my-corpus" by ticking "raw file" in the corpus manager and importing the txt-file I gained in the previous step. In the search box of the KWIC (keyword in context) page, I typed 'VERB', with the setting of 'sort to left'. This lined up all the leftmost words before _VERB in alphabetical order, with most of them, not unexpectedly, being *be* verbs. Then I checked all the less frequent verbs and their contexts to see if the sentence was a case of locative inversion, because the 8009 instances included a lot a noise, with adverbials such as clause-initial time adverbials followed by the pre-verbal subject such as *In 1984 Kuypers accepted the chair of Anatomy at Cambridge* (BNC A1W 73), and other examples of initial adverbials as adjunct, similarly followed by subjects, such as *In the public end a fire flamed in a stone hearth* (BNC A0N 1591). There were also many instances of imperative sentences, such as *In a separate bowl whisk the egg whites until stiff* (BNC ABB 508). This is how I found the "outlier" verbs discussed in the following sections. We will first look at all the verbs before we move to the outliers.

6.2. Verbs found in locative inversion from the BNC

As we saw in Chapter 2, theories regarding what verbs occur in locative inversion include the hypothesis that they are unaccusative verbs, alternatively, verbs that are informationally light. By using a specific query (see Chapter 3 or Appendix 1), data were extracted from the BNC for this project that invalidated these mainstream theories about the occurrence of verbs in locative inversion.

Verbs in locative inversion have been studied by many scholars including Levin (1985), Coopmans (1989), Levin and Rappaport Hovav (1995), Birner (1996), Culicover and Levine (2001), among others. One of the main arguments is that the verbs are always unaccusative instead of unergative (see Chapter 2), meaning that those verbs only have an internal argument with no external argument, the subject of the sentence is not the agent of action, instead, it undergoes the action or change of state, for example, in the example below (1):

(1) The snow melted.

The subject *the snow* does not cause the melting action, rather it undergoes the melting. To recover the deeper structure, the sentence would be: *the sun (or any other potential heat source) melts the snow.* On the other hand, an unergative verb has an external argument but no internal argument as in the example (2):

(2) He laughed.

Different from the properties of the subjects in unaccusative verbs, it is the subject that performs the action described by the verb in this sentence. However, we also saw that this proposal has long been challenged by many, including Levin & Rappaport Hovav (1995), Rochemont & Culicover (1990), Birner (1995), who found that unergative verbs with agentive arguments are also commonly found in locative inversion, such as *gleam* and *march*, which also occur in the BNC in this project, witness in (3).

(3) a. Among the rocks **gleamed** multi-coloured stones; pink and white, veined with black and green, and some running with rust.

(BNC CME 1009)

b. Behind the cadets **marched** three hundred uniformed women soldiers of the army.

(BNC G0D 497)

On the other hand, it has also been shown that not every unaccusative verb can occur in locative inversion such as verbs of externally-controlled change of state, e.g., *break, melt, dry,* etc. (L&RH, 1995, p. 224).

To solve the problems regarding the verbs in locative inversion, from a different perspective, Birner (1995) proposes that this is a matter of pure pragmatics, instead of syntax or semantics, arguing that verbs in locative inversion cannot express anything new to the discourse (see also Birner & Ward, 1998). In their term, the verbs have to be informationally light, in other words, the verbs can only express the meaning of existence and appearance, adding no significant information to this discourse other than this.

To account for the unergative verbs that are not inherently light, Birner (1995) suggests that the prior context or the postposed constituents can also make the verb informationally light

by providing specific information related to the semantics of the verb, thus making it inferable. More specifically, on the one hand, they argue that the prior context can mention something relevant to the verbs, such as the scene of *office* and the verb *work*; on the other hand, they argue that the verbs usually encode the most typical motions that the NP would do, such as the verb *march* for *parade*, thus rendering the verbs themselves informationally light. Nevertheless, this claim is problematic because it over-generalises, given the fact that the examples provided in the literature are hardly convincing, as the necessary links between the verbs and the hints in the prior context or the postverbal NPs are weak and seem far-fetched. This is not helped by the fact that many examples are not from a corpus but reconstructed by the scholars themselves.

Similarly, Levin and Rappaport Hovav (1995) suggest that most of the verbs in locative inversion could be potentially replaced by the verb *be*; however, according to what is found in the BNC, there are many instances of verbs that are apparently not informationally light and express meanings that go well beyond mere appearance and existence, such as *weave, bounce, hurry, twitch, filter, wait, crouch,* etc. Neither can they be considered to be expressing the most typical motions the subject-NP could be expected to do in their contexts. See examples below in (4):

(4) a. Between stacks **weave** ramps and runways fronted by columns of video-tape recorders and audio cassette players, 30 of each.

(BNC B7M 992)

b. From a nearby room **filtered** strains of Baroque music.

(BNC C8D 1853)

c. On screen **bounced** Kylie Minogue and Jason Donovan.

(BNC CH1 3309)

d. Under the creeper bindings **twitched** stumps of flightless wings.

(BNC G3P 1538)

e. Through the door **hurries** Gordon Stainforth, bespectacled and preoccupied.

(BNC ECH 987)

f. In the wings **waited** the proud husbands, boyfriends and parents.

(BNC GUM 2098)

g. In the chair **crouched** the figure of Vanessa Dersingham, stitching a tapestry.

(BNC HA2 1027)

To account for the unergative verbs that are not inherently informationally light, Birner (1995) suggests that the postposed constituents can also make the verb informationally light by providing specific information related to the semantics of the verb, thus making it inferable.

6.3. New verbs found in the BNC and their categories

There are 11 new verbs found in this study from the BNC that are not listed in Levin & Rappaport Hovav (1995, p. 285-286). Those verbs are: *weave* as in (4a), *filter* (4b), *bounce* (4c), *twitch* (4d), and others as in (5):

(5) a. Above the col **jutted** the imposing obelisk of Ama Dablam.

(BNC ECG 949)

b. Through the trees **shimmered** the 150-acre tarn.

(BNC F9H 686)

c. Inside the business school **chimed** the melody that meant the change of lessons.

(BNC FP0 2667)

d. Through the squalor **threaded** a well-guarded street.

(BNC GVL 1244)

e. Behind the road-builders **trundled** wagons laden with graded stone to be pounded and pulverised into place to make a road which was intended to last for centuries to come.

(BNC HHC 750)

f. Behind the new anti-Modernism **flits** the shadow of that old anti-Modernist D. H. Lawrence.

(BNC CKN 1001)

g. Around the dancers **swills** a crowd of onlookers, some watching, some drifting into corners.

(BNC J13 713)

Verbs other than *be* found in the BNC for this project can be put into different categories, according to the same method in Levin and Rappaport Hovav (1995, p. 281-283); here we pay more attention to verbs that are rarely seen in locative inversion, excluding verbs such as *be* verbs.

These are considered **unaccusative verbs** (Levin & Rappaport Hovav, 1995, p. 220), with verbs found in this BNC search:

Verbs of appearance: *grow, flow, appear, come;*

Verbs of existence: *linger, lurk, loom, flourish, wait, exist, live,*

Verbs of inherently directed motion: come;

Verbs of spatial configuration: *stand, crouch, rise, fly, hang, nestle, rest, hover, lie, jut, perch, sit;*

Those verbs are considered **unergative** (Levin & Rappaport Hovav, 1995, p. 223-226), with verbs found in this BNC search:

Verbs of light emission: *gleam, flicker, shimmer, shine, blaze;*

Verbs of sound emission: *chime, sound, drone, rumble,*

Verbs of substance emission: *pour, spring;*

Agentive verbs of manner of motion: *bounce, hurry, march, walk, run, stride, stand, trundle, flit, rush;*

Verbs of manner of motion: *ride, float, bounce;*

Besides, another group is what L&RH (1995) categorises as verbs of ***body-internal motion,*** e.g., *flap, flutter, twitch,* which they claim to be unergative verbs, resembling internally caused verbs (L&RH, 1995, p. 226). Among those verbs, this study found one example of the verbs they listed but not found in their data collection, the verb *twitch*, as in (6):

(6) a. Under the creeper bindings **twitched** stumps of flightless wings.

(BNC G3P 1538)

There are other verbs found in this study that are not categorised specifically in L&RH (1995), such as *weave, stretch, filter, spring, cling, trail, thread, waft, hinge,* see Appendix 1 for sentences they appear in.

It is clearly true that the verbs found in the naturally-occurring instances of locative inversion cannot be simply categorised into a single semantic class. The felicitous use of the verbs in this construction is the result of the interaction of different forces, such as verb meaning, construction meaning and the discourse context.

6.4. The discourse function of locative inversion

On the basis of a corpus survey on the instances of the verbs found in locative inversion, Levin and Rappaport Hovav (1995) argue that it is not just unaccusative verbs that are licenced in that construction, as usually argued in the literature (Levin, 1985; Coopmans, 1989). Unergative verbs, too, are widely found in locative inversion. This means that locative

inversion cannot be used as a diagnostic for unaccusativity (L&RH, 1995, p. 260), as the felicity of the verb is determined by the discourse function of the construction. This section will focus on the discourse function of locative inversion and try to gain insights into how it can affect the verbs, the preverbal PP and the postverbal NP in the felicitous use of this construction.

6.4.1. Information structure and discourse function

The information structure of locative inversion has been briefly introduced in Chapter 2; this section will recap some key points of the arguments by different researchers. As argued by CxG, the primary function of constructions is to encode the generalised knowledge of information structure and discourse pragmatics to help especially language learners to memorise different patterns (Goldberg, 2006, p. 63). Information structure involves elements such as topic-comment structure, focus, and given-new information distinctions, all of which contribute to shaping the overall meaning and communicative effectiveness of a construction in conveying information. Thus, information structure lies within the scope which the CxG deals with when it comes to language use, and it is generally considered by many different approaches in CxG, e.g., Radical CxG, Cognitive Grammar, as one aspect of the meanings conveyed by linguistic constructions (Goldberg, 2006, p. 221; Langacker, 2005).

Recall that information structure refers to how speakers arrange the information in different positions in sentences to accommodate for the ‘’states of the addressee’s mind’ so that the information conveyed in an utterance will be coherently followed by the hearers (Birner & Ward, 2006); this phenomenon is termed as ‘packaging’ by Chafe (1976). In most human languages including English, old/given or familiar information occurs before new information to achieve immediate communicative goals and speakers use noncanonical constructions whenever the canonical sentences cannot serve this purpose (Birner & Ward, 2006).

Discourse function and information packaging are the core topics in information structure study. It is widely argued that speakers choose the most suitable syntactic structures to

cater for the specific communicative needs of interlocutors when they convey certain propositions (Birner, 1994). When there is more than one way to express the same propositions, the speakers will usually in theory select the most felicitous construction to cater for the best discourse function according to the specific context (Chafe, 1976; Birner, 1994). For example, the English *it-cleft* and *wh-cleft* are closely related in that they express the same information content as the canonical non-cleft sentence (Prince, 1978, p. 883), such as in (7):

(7) a. John lost his keys.

b. What John lost was his keys.

c. It was his keys that John lost.

(Prince, 1978, p. 883)

To express a proposition like this, a speaker can select any of them according to different needs depending on the various contexts. The different information packaging in these three different constructions means they will function differently in the discourse. According to Prince (1978), there are two types of *it*-clefts with distinct discourse functions, namely, 'stressed focus *it-clefts'* and 'informative-presupposition *it-clefts*'. They differ in the information status represented by the *that-clause* and the NP after copula. In a stressed-focus *it-cleft*, the information conveyed in *that-clause* is argued to be known or old from the context; this means that, in an *it-cleft*, the rule of given-preceding-new seems to be violated, as the *that-clause* represents old and known information while the new information is conveyed in the NP after the copula. See the conversation in (8):

(8) a: Did John lose his wallet?

b: It was his keys that John lost.

The second type of *it*-cleft, the informative-presupposition *it*-cleft is more interesting in that it differs from the previous one by putting information that is not supposed to be known to the hearer into the *that*-clause. In fact, this type of *it*-cleft is commonly seen in historical narratives, to present some universally known facts which might not necessarily be known

to the intended hearer, but are known to the wider general public. This means that the speaker uses this construction to disavow any responsibility for the correctness of the statement. This makes it a useful device for the purpose of persuading by presenting the supposedly generally known facts (Prince, 1978). See (9):

(9) IT WAS JUST ABOUT 50 YEARS AGO THAT HENRY FORD GAVE US THE WEEKEND. On September 25, 1926, in a somewhat shocking move for that time, he decided to establish a 40-hour work week, giving his employees two days off instead of one.

(Prince, 1978, p. 898)

This type of cleft also has a function in structuring a narrative, where this construction frequently has a 'thematic scene-setting' adverbial (Kuno, 1975) as in (9) in the focus position after the copula, such as time, place, etc. (Prince, 1978, p. 899) to set the scene for the hearer preparing them for what will possibly come after. By comparison, in a *wh-cleft*, the *wh-clause* 'what John lost' as in (7b) represents the information that the speaker assumes the hearer is thinking about, or least somehow in the hearer's consciousness.

To sum up, it can be seen that for closely related constructions such as *it-cleft* and *wh-cleft*, the information status and discourse function play an important role in determining the appropriate use of the correct construction in the specific context. The following section will focus on the discourse function of locative inversion and explain why discourse matters in locative inversion.

6.4.2. Discourse function of locative inversion

It is clear from the literature that the discourse function of locative inversion is to introduce new referents into the discourse. Rochemont (1986) proposed two types of focus in sentences, namely, Presentational Focus and Contrastive Focus. He argues that the postverbal NPs in an inversion (including locative inversion) have presentational focus, by which he means that the expression in this position should not be under discussion or indexical (which refers to expressions like personal pronouns, locative and temporal adverbs) (Rochemont, 1986, p. 174). The presentational focus theory inspired others like

Bresnan (1994, p. 90), who claims that in locative inversion, the postverbal NP is introduced as the theme, based on the scene set by the preposed preverbal PP as the location. In a nutshell, the locative inversion is argued to 'be used to introduce the referent of the postverbal NP on the scene' (L&RH, 1995, p. 229) (see also Rochemont & Culicover, 1990; Rochemont, 1986; Bresnan, 1994). Similarly, Penhallurick (1984, p. 42) states that the verbs appearing in this construction are introducing an entity to the discourse, which is why those verbs usually indicate existence and appearance. This explains why verbs such as *laugh* cannot be used in this construction: it is not a typical verb used for introducing entities but for describing entities. However, the presentational focus theory is far from perfect, and cannot account for all the instances in locative inversion (Birner, 1994). In (10), the *ropes* and *balls* are actually under discussion, which is why the presentational focus explanation cannot apply in this situation.

(10) As the skipping rope hit the pavement, so did the ball. As the rope curved over the head of the jumping child, the child with the ball caught the ball. Down came the **ropes**. Down came the **balls**. IL'Engle 1962:1(03)

(Birner, 1994, p. 238)

For our purposes, the interesting point is that many verbs found in attestations of locative inversion do not have existence and appearance as their primary meaning. The presence of non-unaccusative verbs can in fact be explained by considering pragmatics (Birner, 1994; 1995). Based on a corpus study looking at a large corpus of naturally occurring sentences of different types of inversion, including locative inversion, Birner (1994) claims that the postverbal NP in locative inversion does not have to be discourse-new; the only constraint is that it has to be less familiar than the information in the NP in the preverbal PP. Birner's study shows that the presentational claim of Rochemont (1986) is too strong, but it cannot be denied that the discourse function is presentational in a broad sense, as it helps to introduce less familiar information to the scene (L&RH, 1995).

As a noncanonical construction, the information packaging function of locative inversion is argued to play an important role in facilitating the felicitous use in specific contexts. This view is supported by Birner (1994; 1995) who proposes that all inversions including locative

inversion function as an information packaging mechanism, and inversion uses the 'clause-initial placement of information' containing familiar information to link the less familiar information to the prior context (Birner, 1995, p. 238).

From a pragmatic perspective, it is now clear that the discourse function plays an important role in the choice of locative inversion in natural language. Interestingly, the Path component can sometimes determine whether the locative inversion is acceptable. For example, Kudrnáčová (2006) agrees that the function of locative inversion is to present something to the hearer, but she insists that the path is of particular importance in this construction. Recall that Kudrnáčová (2006), looking into the semantics of the preverbal PP, argues that even with unaccusative verbs, the PP with the preposition *to* is not permitted in locative inversion while *into* is felicitous, because the two of them create totally different Paths. The Path encoded by the preposition *into* can indicate the sense of appearance whereas the path represented by the preposition *to* cannot function as 'appearance in some place' (Kudrnáčová, 2006, see Section 2.4 for the detailed argument). See the contrast in (11):

(11) a. Into the shop *came* a young and very hot couple, leaving their bicycles outside.

b. ? To the room *walked* a boy.

(Kudrnáčová, 2006)

By comparing these two prepositions, Kudrnáčová (2006) points out that the verbs in the locative inversion usually have the following two denotations, 'the entity's **dynamic existence** in a place' or 'the entity's appearance in a place'. The verbs of change of state/location are mainly used to indicate the dynamic existence of the profile instead of the intrinsically primary semantics of the change of location.

It can be seen from Kudrnáčová (2006) that the main discourse function of locative inversion is still focused on the existence and appearance even in the directed motion event. This argument is very much in line with that of Mendikoetxea (2006) that the motion and movement of the entity is secondary and the existence is foregrounded so the primary

function of this construction is to express the existence or appearance of an entity in a place.

The discourse function of the locative inversion construction can also be easily suggested by the verbs occurring in it, verbs found in this construction by L&RH (1995) include unaccusative verbs, such as verbs of change of state, verbs of emission, verbs of spatial configuration, verbs of inherently directed motion, and unergatives verbs, such as agentive verbs of manner of motion, e.g., *chatter, sing, doze.* Although the verbs belong to both unaccusative verbs and unergative verbs, they support the argument by Birner (1995) that the verbs in locative inversion have to be informationally light, again consistent with the discourse function of locative inversion, which is not to add too much information other than the occurrence or existence of some entities in some places.

In fact, the informationally light theory makes a lot of sense as it can be used to explain why not all unaccusative verbs can appear in locative inversion. For instance, externally-caused verbs of change of state cannot occur in locative inversion because they add new information to the discourse. For verbs like *melt*, *break*, an external factor is required to exert force in order to achieve the goal, the snow cannot melt itself unless there is heat, and a window cannot break itself unless there is wind or a brick (L&RH 1995: 233). Both add new information to the discourse, so even though they are unaccusative, they still cannot occur in locative inversion.

This proposal looks promising and supported by L&RH (1995), but L&RH give no plausible explanation to all types of verbs, including one of the most important cases involving the unergative verbs in locative inversion, that is when agentive verbs of manner of motion, e.g., *bounce, flit, hurry, march, run, trundle, rush* (verbs found in BNC), occur with a directional PP (see open path in Section 8.5.1) instead of a locative PP, see example in (12):

(12) *Through the door hurries* Gordon Stainforth, bespectacled and preoccupied.

(BNC ECH 987)

It is found that when the same verbs occur in locative inversion with different PPs, either locative, e.g., *at, in, behind,* or directional, e.g., *through, into*, they will behave differently in

taking postverbal NP (L&RH, 1995, p. 258). More specifically, with the same verb, the locative inversion with locative PP is only felicitous when the postverbal NP will do the most typical motion that the verb prototypically indicates. In other words, when the PP is locative in locative inversion, the verb has to indicate the typical motion that the postverbal NP will do, otherwise, the locative inversion will not be acceptable. By comparison, a directional PP will not require this type of relationship between the verb and the postverbal NP (L&RH, 1995, p. 258).

This summary aligns with our observation of our data obtained from BNC; nevertheless, no widely acceptable explanation is offered in L&RH (1995) for the distinction between the different behaviours of the same verbs in the two different types of locative inversions. More importantly, the ultimate question is still why many **agentive verbs of manner of motion** (see full list of verbs found in BNC in Section 6.2 & 6.3) and other unergative verbs can be found in locative inversion. While we do acknowledge the essential role pragmatics plays in the felicitous use of this construction, more questions to be answered include: how to categorise the 'typical motion' of postverbal NPs? How to decide whether the information can be called "light"? And if agentive verbs of manner of motion can only take a locative PP with a specific type of NP, why can it also appear with directional PPs and other types of NPs? There must be some other mechanisms behind the locative inversion construction that can account for the occurrence of those verbs. Those problems can be solved by the Windowing of Attention theory proposed by Talmy (2000a) (Chapter 8).

6.5. Conclusion

Through a thorough data mining in BNC, I found some new verbs in the locative inversion construction that the previous literature did not find, most importantly, verbs belonging to categories which can be further divided into unaccusative and unergative verbs. This again proves that the projectionist syntactic approach is not the best account for the verbs in locative inversion. In addition, pragmatic constraints such as discourse function also play an essential role in the felicitous use of verbs in this construction.

7. Construction and Frames

In the journey to find the right framework to explore the three constructions, I have been trying different theories from formal Construction Grammar, and cognitive Construction Grammar, ranging from a more formal approach, i.e., Sign-based Construction Grammar (SBCG) to more usage-based models and functional approaches, e.g., Goldberg's Construction Grammar and Talmy's Cognitive Semantics. Each of them gives me important inspiration to find my way to the destination of resolving the puzzles. As we have seen from the previous chapters, the verbs in locative inversion appear to be very baffling due to the difficulty of predicting exactly which verbs can appear in the construction, so this investigation will focus on the verbs and try to account particularly for the appearance of novel verbs here.

In the hope of finding a way to decompose the structure of locative inversion and its interaction with verbs appearing in it, a formal approach of Construction Grammar, which is called Sign-based Construction Grammar (SBCG), was employed. I was particularly interested to see how SBCG, although a projectionist model in the sense of generating grammatical structures on the basis of input from the lexicon, might deal with the coercion-aspect of the construction, as the notion that constructions contribute meanings of their own is a particular strength of Construction Grammars. In the end, SBCG turned out not to provide the answers I needed; a framework that was more successful in this respect will be introduced in the second half of the chapter. This is why I will limit the discussion to only a brief introduction of how SBCG works instead of an extensive detailed illustration. Nonetheless, it helped me significantly by introducing me to the concept of Frame, which can account for the felicitous use of verbs in a number of constructions discussed in the literature. This will become clearer in the following chapters when I will discuss frame semantics and event frames.

In this chapter, section 7.1 will outline the basic concepts of SBCG and how it is inspiring in exploring other approaches; section 7.2 will focus on frame semantics and see how it helps to build up the idea of construction grammar. Then, section 7.3 will elaborate on the theory of Construction Grammar in full length including all the relevant concepts. Section 7.4 and

7.5 introduce the concept of polysemous constructions and how the verbs interact with constructions. Finally, section 7.6 compares different approaches in CxG and how CxG can be used in this research.

7.1. Sign-based Construction Grammar

Construction Grammar (CxG) studies the pairings of form and meaning as the fundamental building blocks of human language, which is different from the projectionist view which assumes that sentences are projected up from the lexicon. CxG regards sentences and phrases as well as many other linguistic units as different constructions with different meanings of their own (Goldberg, 1995; Goldberg, 2006).

As one of many approaches of CxG, Sign-based Construction Grammar (SBCG) is developed from the theory of Head-Driven Phrase Structure Grammar (HPSG) (Sag, 1997; Ginzburg & Sag, 2000), combined with Berkeley Construction Grammar (BCG) (Fillmore & Kay, 1993; Michaelis & Lambrecht, 1996; Kay & Fillmore, 1999; Michaelis & Ruppenhofer, 2001), mainly developed by Sag (2001; 2010; 2012) along with others (Michaelis, 2003a; 2010; 2013).

SBCG recognises that language can be a recursive system, taking a more generative view of language modelling, in that the feature structures of one sign can be sub-feature structures of another sign, which can together construct an even larger sign (see Figure 7.3 below). SBCG adopts a slightly broader scope in that it also looks into the smaller parts in language, i.e., lexemes. For example, an instance of an idiomatic expression such as *pull strings* is normally studied in CxG as a whole, but in SBCG it can be analysed as two separate lexemes – *pull* and *string*, with both needing to meet certain constraints to form the phrase *pull strings* (Sag et al., 2012, p. 19), see Figure 7.1 for *pull* and Figure 7.2 for *strings*:

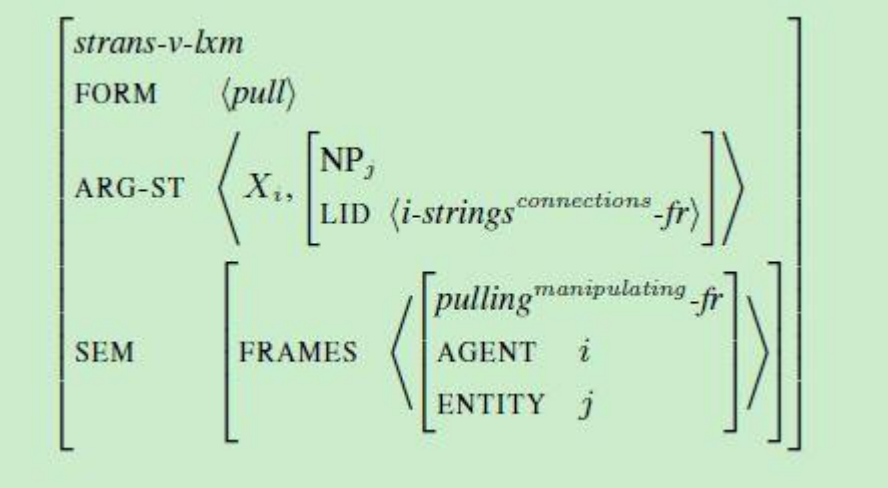

Figure 7. 1: [lexeme: pull], from Sag (2012, p. 123)

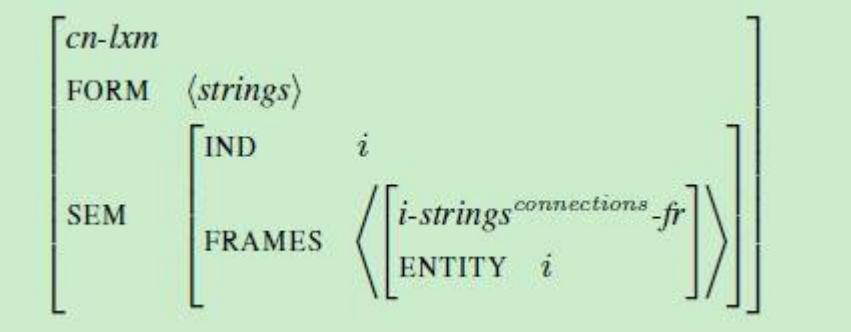

Figure 7. 2: [lexeme: string], from Sag (2012, p. 123)

7.1.1. Feature structure

Unlike the traditional construction grammar model, which is not primarily formal (Michaelis, 2013), SBCG provides a formal analysis of CxG. It sees language as an infinite set of signs and analyses those signs according to templates called **feature structures (FSs).** The concept of taking languages as signs derives from Saussure (1916), but Saussure's signs mainly refer to the pairing of sound and meaning, while signs in SBCG involve more components, such as phonological structure, morphological form, syntactic category, semantic (e.g., frames) and use conditions, including information structure (Sag, 2012, p. 63).

Feature values include word classes like verb, *noun, adjective*, case values like *nominative, accusative*, nominal categories like *number*, *gender*. In SBCG, a sentence like *Alex denies the allegations* can be represented by the tree in Figure 7.3:

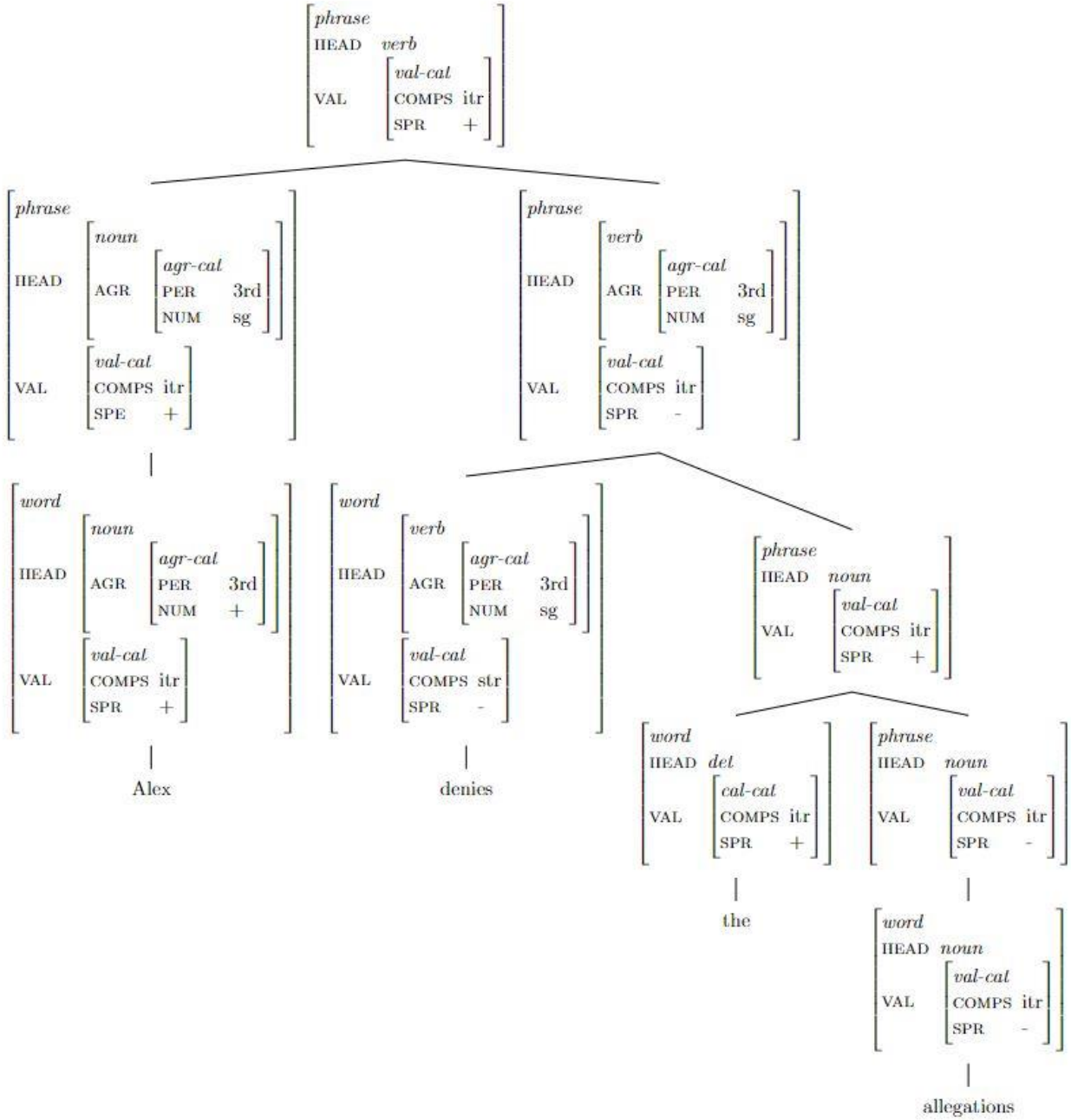

Figure 7. 3: [Alex denies the allegations], from Sag et al. (2003, p. 71)

For a lexical entry to be complete, it has to have the information of its HEAD, which can include its word class and agreement information (agr-cat: agreement-category) which can further include person (PER), number (NUM), gender (GEND), countability (COUNT), case (CASE), etc. Then the feature structure representation of the lexical entry needs to include valence features (val-cat: valence category) which indicates the combinatorial potential of the word or phrase. The values of val-cat include COMPS (complements) which can be itr= intransitive, str= strict transitive, dtr= ditransitive. This category also includes the feature SPR (specifier); [SPR -] means it needs a specifier on the left, [SPR +] means it does not. Features of the HEAD and VAL are combined as the feature SYN (syntax), also marked as syn-cat (syntactic-category), which is one of the three main features (SYN, ARG-ST, SEM) of the formula in SBCG.

As another important feature, semantics is represented by SEM and its values are classified by *sem-cat (semantic-category)*. The values of *sem-cat* can include MODE (e.g., prop: proposition, ques: question, dir: directive, ref: reference), INDEX (i, j, k…, S1, S2, …), RESTR (restriction). INST (instance) is used for nouns and adjectives with only one argument. Also, SBCG assumes that all predications are 'situated' because they mark some particular situation, so SIT (situation) is used in most cases. RELN means RELATION (see below), and the rest includes the semantic roles of the verb, such as *giver, recipient, gift*, etc. Putting all the values together, the feature structure of the verb *give* should look like in Figure 7.4:

$$\begin{bmatrix} \textit{predication} & \\ \text{RELN} & \textbf{give} \\ \text{SIT} & s \\ \text{GIVER} & i \\ \text{RECIPIENT} & j \\ \text{GIFT} & k \end{bmatrix}$$

Figure 7. 4: [Ffs of *give*], from Sag et al. (2003, p. 139)

As a streamlined model, SBCG uses a straightforward way to represent the argument structure (ARG-ST), such as ARG-ST < NP, VP, NP>. The SBCG representation for the verb *loves* looks like Figure 7.5:

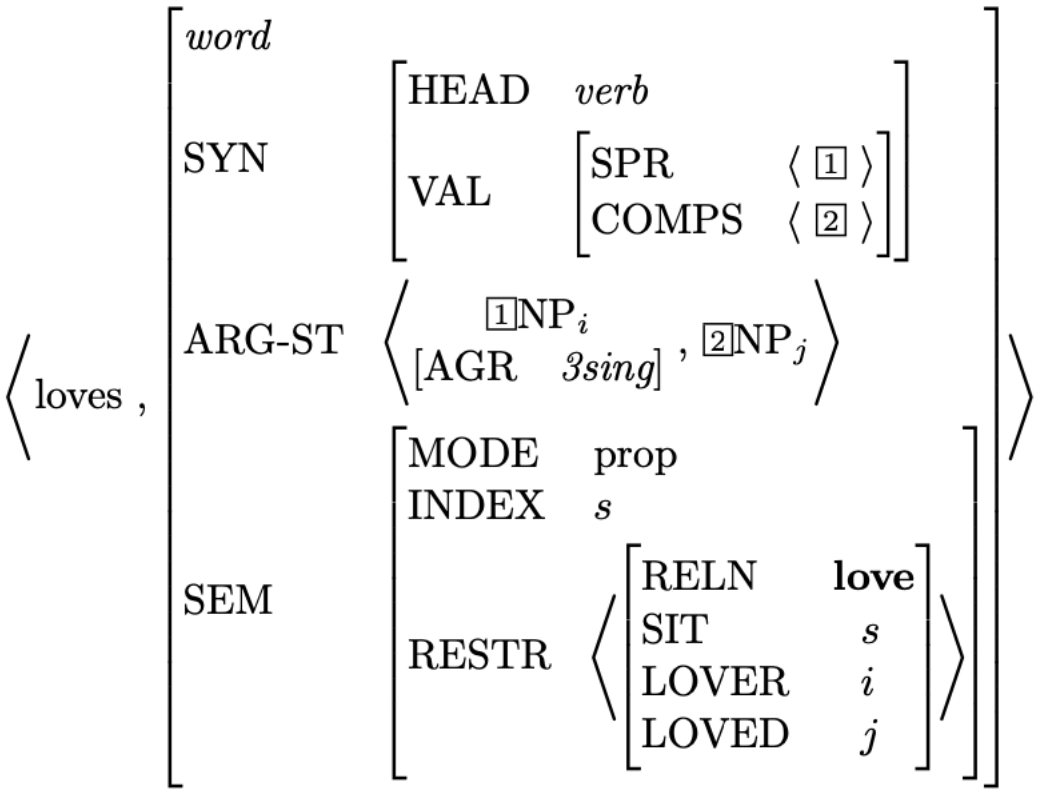

Figure 7. 5: [lexical entry of verb *love*], from Sag et al. (2003, p. 220)

These feature structures can be sub-FSs for other categories, for example, the SPR in VAL, can also have its own feature structures SYN, SEM which can have further FSs such as HEAD, VAL, AGR, COUNT, INDEX…, see Figure 7.6:

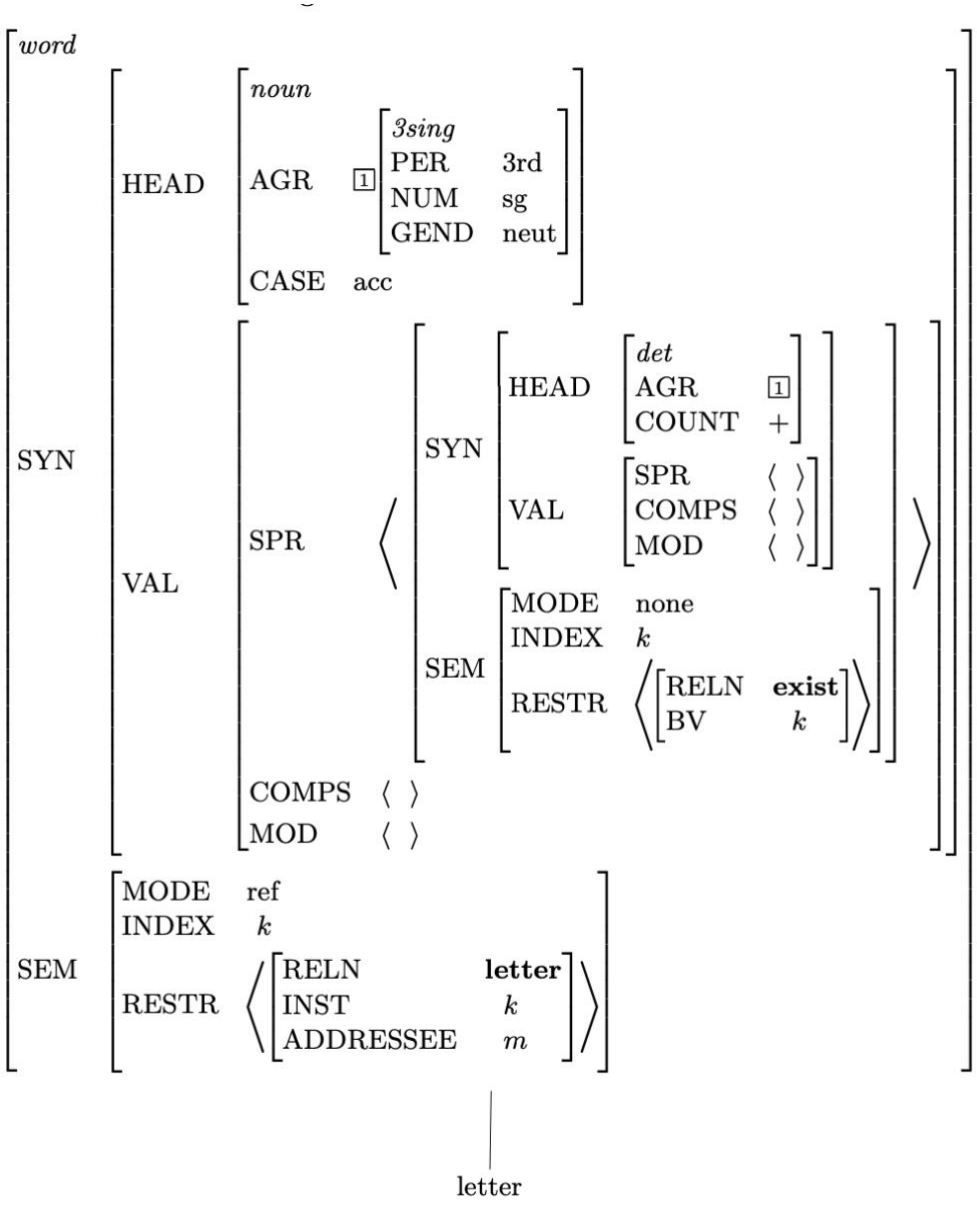

Figure 7. 6: [Ffs of *letter*], from Sag et al. (2003, p. 170)

It is worth mentioning that the feather RESTRICTION and RELATION (RELN) are represented in Michaelis (2013) and Sag (2012), as FRAMES (see Fillmore, 1982; 2006) to replace RESTR and *fr* (frame) to replace RELN, as in Figures 7.1 and 7.2. An attempt to represent the feature structure of the locative inversion is shown as in Figure 7.7:

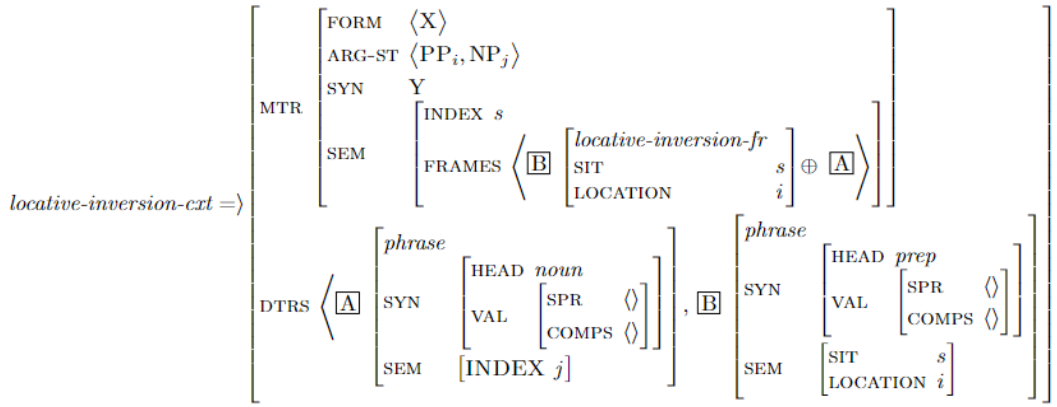

Figure 7. 7: [Ffs of the locative inversion construction]

In this diagram, MTR means mother (output), DTRS means daughters (input). The DTRS specifies the members of the signs that are needed to construct the whole in the MTR and the MTR in turn places constraints on the desired set of signs that are needed to make constructions grammatical. As shown above, the desired word order for locative inversion construction is <PP, VP, NP>. Also as mentioned before, VP is omitted by default, so the ARG-ST value is <PPi, NPj>, the index i means that this PP has the same referent as the location information in FRAMES as well as the location in its PP daughter. The index j means the NP has the same referent as the noun phrase in the daughter list.

The natural occurrence and the inventory of locative inversion determines which constructs are permitted in this construction and then the inventory of these constructs licenses the set of signs that are allowed (Sag, 2012, p. 98). In other words, the natural inventory of the verbs in locative inversion determines which verbs are allowed to occur in this construction, so the constraint of the occurrence of novel verbs boils down to the meaning of construction as well as the syntactic and semantic features of the verb itself.

7.1.2. Frame in SBCG and implications

Frame is important as it can restrict the semantics of verbs, and it can potentially help to explain the appearance of novel verbs in locative inversion. Michaelis (2003a) uses SBCG to

analyse three types of **coercion** in English, including the case involved in locative inversion, see the example (1):

(1) Down at the harbor there is a teal-green clubhouse for socializing and parties. Beside it *sparkles* the community pool. (*Vanity Fair*, August, 2001; Michaelis (2003a, p. 3)

In (1), *sparkle* is a monovalent verb, but it can be used in a bivalent frame consisting of a location and a theme. It seems that the verb *sparkle* is embedded by some mechanism into a construction in which it does not normally appear, which we now know is called **coercion**.

Most importantly, it is from this point that I discovered the importance of the concept of Frame. Frame is of vital importance in that it can assist the understanding even if something is not linguistically expressed, see Ungerer and Schmid (2006, p. 217). In a restaurant scene, we can describe the entire process without saying a person is eating in this scenario, because our world knowledge that is embedded in this frame helps us process the related information that is co-evoked in this event.

7.1.3. From formal approach to functional approach with a usage-based model

As the formal approach of construction grammar does not eventually help to answer the question which verbs can appear in locative inversion, other functional approaches have been explored and proven to be more suitable for my research questions. This group of constructionist approaches highlight the specific purposes or functions that different linguistic constructions fulfil. Instead of viewing language as a set of abstract rules or structures, these approaches focus on understanding how specific constructions contribute to meaning and communication in real-world language use.

These approaches will be introduced in the following sections and chapters. In this chapter, I will focus first on Goldberg's (1995; 2006; 2019) Construction Grammar and then Talmy's Framing Event theory; Talmy's Windowing of Attention theory will be discussed in the following chapter. To understand CxG, we first need to understand frame semantics and the conceptual configuration of how individuals mentally structure and organise information, ideas, or experiences which can lead to the notion of constructions. This following section

will provide an introduction of frame semantics and then in section 7.3 I will introduce CxG and how verbs can interact with constructions.

7.2. Frame semantics

The notion of **frame** (Fillmore, 1982; 1985) has been briefly discussed when it came to coercion in how it interacts with the notion of Idealised Cognitive Model (ICM) to affect metonymy (refer to Section 5.5.1). To recap the concept: a frame is a set of world knowledge that will be activated or evoked in a specific scenario, in what Ungerer and Schmid (2006, p. 212) call 'a type of cognitive model which represents the knowledge and beliefs pertaining to specific and frequently recurring situations.'

Different from the semantics approach in a Chomskyan paradigm which puts most emphasis on the truth condition of utterances, frame semantics proposes that just like a frame is required for a thorough understanding of nouns, the good understanding of verbs also requires world and cultural knowledge specific to a background frame in a certain context (Goldberg, 1995; Boas, 2021a; 2021b). The main point of frame semantics can be best explained by what Boas (2021b, p. 278) cites from Fillmore and Atkins (1992, p. 76-77):

> A word's meaning can be understood only with reference to a structured background of experiences, beliefs, or practices, constituting a kind of conceptual prerequisite for understanding the meaning. Speakers can be said to know the meaning of the word only by first understanding the background frames that motivate the concept that the word encodes (Fillmore & Atkins, 1992, p. 76–77).
>
> (Boas, 2021b, p. 278)

In the commercial frame such as the [BUY] frame in *David bought an old shirt from John for ten pounds*, there could be four components, namely, the buyer, the goods, the seller and the money, each with different syntactic roles accordingly as subject, direct object, first adverbial and second adverbial (Ungerer & Schmid, 2006, p. 208). This buying event is described from a buyer's perspective, but if it is changed to a seller's perspective, the frame components and their syntactic roles will have to change accordingly. This shows that the

frame of a verb has a tight correspondence not only with real world knowledge but also with syntactic structures (Ungerer & Schmid, 2006).

The frame related to each verb is vital for understanding the meanings of the verb fully in at least three ways. First, it helps to decide the appropriate use of adverbs and adjuncts, as the manner of a verb has to be known by the speaker. Second, it helps language acquisition as frames assist learners to understand how highly similar but distinct verbs are used in slightly different situations; at the same time, it can also help them notice the irregular forms of some English verbs. Third, it is essential for language users to interpret and translate with a good understanding of the frames of different verbs (Goldberg, 1995, p. 31). The advantage of the frame-semantic knowledge can be displayed when a novel verb appears in an unexpected syntactic structure, such as in one of the most classic examples in (2).

(2) Sam **sneezed** the napkin off the table.

(Goldberg, 1995, p. 29)

To understand a sentence like (2), one has to know the detailed information about how the act of *sneezing* is normally done, in addition to the plain syntactic configuration that can be projected by the main verb solely (Goldberg, 1995, p. 29). More specifically, although the frame of the verb as it sits in the lexicon is intransitive, it is only the real-world knowledge of the act that allows the hearer to make sense of the transitive resultative construction of (2).

The concept of frame, which can also be termed “scene” as Fillmore (1982, p. 373) points out, in frame semantics was originally proposed to facilitate the understanding of linguistic expressions, but it later came to be referred to as ‘a cognitive structure […] knowledge of which is presupposed for the concepts encoded by words’ (Fillmore and Atkins 1992: 75). This revision is endorsed by Ungerer and Schmid (2006, p. 210-212), who state that ‘a frame is to be seen as a type of cognitive model which represents the knowledge and beliefs pertaining to specific and frequently recurring situations.’

The concept of frame thus has been reinterpreted to have a tight connection with human cognition, which has important implications when it comes to the meanings of each construction as a form-meaning unit (Ungerer & Schmid, 2006). More specifically, this

revised concept of frame explains why the frame components of verbs are usually closely related to specific syntactic constituents, given that a frame can be seen as a specific experience that is stored in long-term memory, as indicated above by Fillmore and Atkins (1992, p. 76-77). This means that these syntactic patterns are categorised as high-level constructions (higher than lexical items or morphemes), which themselves might have a certain meaning of their own with specific scenes (Ungerer & Schmid, 2006, p. 245).

7.3. Construction Grammar

The research of Construction Grammar (CxG) has been primarily developed out of the research of the sister theory Frame Semantics (Fillmore, 1982) in the 1980s, in the hope of providing a theory to account not only for the fully predictable syntactic structures but also those non-predictable form-meaning pairings such as idioms.

From a projectionist point of view, argument structure is determined by the verb itself (Chomsky, 1981). However, a very common verb in English such as *kick* can be found in as many as eight different argument structures, as in (3):

(3)

a. Pat kicked the wall.
b. Pat kicked bob black and blue.
c. Pat kicked the football into the stadium.
d. Pat kicked at the football.
e. Pat kicked his foot against the chair.
f. Pat kicked bob the football.
g. The horse kicks.
h. Pat kicked his way out of the operating room.

(Goldberg, 1995, p. 11)

The sentences in (3) show that different contexts can in effect give specific senses of meaning to the verb in various syntactic structures, which strongly suggests that the

construction itself also has a meaning, just like lexical items (Goldberg, 1995; 2006). Another example that can support this viewpoint is that verbs of both unaccusative of unergative categories can be found in the *way* construction. Some scholars claim that only unergative verbs, which have an external argument but no direct object at D-structure (Levin et al., 1995, p. 4), can occur in this construction, unlike unaccusative verbs, which have a direct internal argument and no subject (Perlmutter, 1978; Marantz, 1992; Levin, 1993; Levin & Rappaport Hovav, 1995). Nevertheless, Kuno and Takami (2004, p. 74-75) find some unaccusative verbs as shown in (4) in the *way* construction:

(4) a. A steel rope *snaked* its way across the construction site.

b. Rainwater *trickles* its way to the underground pool.

(Kuno & Takami, 2004, p. 74-75)

To explain this phenomenon, Ausensi (2019) argues that it is not the unaccusativity that determines the felicity of the verbs in the construction; instead, it is the construction and the frame that determine the verbs appearing in it. This is reminiscent of a similar phenomenon we found for locative inversion, where the literature claimed that locative inversion and existential *there*-constructions only allow unaccusatives (Levin, 1985; Coopmans, 1989; among others), in spite of the fact that corpus work also found unergative verbs in these constructions (Levin & Rappaport Hovav, 1995). This suggest that a verb's argument structure as codified in the lexicon cannot account for all the possible occurrences of verbs. This puzzle can be easily solved if constructions as in (2) are seen as independent constructs with a meaning of their own, and thus have their own ways of selecting lexical items to appear in them. The independent semantics of constructions can account for the unexpected occurrences of uncommon verbs in certain constructions (Goldberg, 1995, p. 29).

7.3.1. Definition of Construction Grammar

In Construction Grammar, constructions are defined as form and meaning pairings that must be learned at every level in a given language. The classic and frequently cited definition of constructions given by Goldberg (1995) is as follows:

> C is a CONSTRUCTION iff$_{def}$ C is a form-meaning pair <F_i, S_i> such that some aspect of F_i or some aspect of S_i is not strictly predictable from C's component parts or from other previously established constructions.
>
> (Goldberg, 1995, p. 4)

A key point is that the concept "form" does not only refer to syntactic form but also to morphological and phonological form, and that "meaning" includes both semantics and pragmatics (Boas, 2021a, p. 10). In the more recent work by Goldberg (2006, see also Goldberg, 2019, p. 6-7), she updates the definition of construction slightly to make it more inclusive, as follows:

> All levels of grammatical analysis involve constructions: learned pairings of form with semantic or discourse function, including morphemes or words, idioms, partially lexically filled and fully general phrasal patterns.
>
> (Goldberg, 2006, p. 6)

This updated version re-emphasises the function of constructions encompassing information including information structure (e.g., information status), register (e.g., formal or informal), linguistic variation, etc. (Goldberg, 2006, p. 10). This thesis mainly adopts the original definition but also acknowledges the latest definition by Goldberg as the functional perspective is essential in this research.

CxG proposes that all constructions are seen as the basic units of language, and that language is a complicated and vast network of different constructions at varying levels intertwining together without a clear-cut line between lexicon and grammar (Boas, 2021a; 2021b). This vast system of knowledge of language is termed as a construct-i-con (Goldberg, 2019, p. 34-36; Hilpert, 2019, p. 50-74). To include all the constructions in a language, there is a syntax-lexicon continuum ranging from the very basic free morphemes at one end to

highly schematised and abstract subject-predicate agreement structures at the other end (Boas, 2021a, p. 13). Therefore, from this point of view, derivational morphemes such as *un-, -able*, form low level constructions, whereas argument structures such as the ditransitive construction are high level constructions that are more complex and schematic (Goldberg, 1995; Boas, 2021a; 2021b). Table 7.1, taken from Boas (2021b, p. 282) and based on Goldberg (2006), shows some examples of constructions in English:

Table 7. 1: Constructions in English

Subject–predicate agreement	NP VP-s (e.g., *Kim walks*)
Imperative	VP! (e.g., *Go home!, Buy that book!*)
Passive	Subj AUX V_{PP} (PP_{by}) (e.g., The chocolate was eaten by the neighbors)
Ditransitive	Subj V Obj_1 Obj_2 (e.g., *Lena baked Sophia a pizza*)
Covariational conditional	The Xer the Yer (e.g., *the more you run the fitter you get*)
Idiom (partially filled)	*Pat doesn't like cake, let alone brownies*
Idiom (filled)	*Hit the road, a penny for your thoughts*
Complex word (partially filled)	[N-s] (for regular plurals)
Word	*Pizza, walk, icy, but*
Morpheme	*Un-, -able, -ment*

It can be seen that the higher the level of the constructions, the more abstract and schematic they are, and the less specific the meaning that they express. Although every construction represents a pairing of meaning and form, "meaning" here refers to different concepts in different constructions. For example, in the more concrete lower-level constructions, the meanings are much more specific than in the constructions with high schematisation. The reason that some constructions are more abstract than others is that they are not fully filled; examples include argument structure constructions and the subject-predicate agreement construction, which are more like schemas, unlike the more concrete low-level constructions such as lexical items with specific filled form and meaning (Boas 2021a; 2021b). As the core argument of CxG, languages are seen by Goldberg (2006, p. 18) as 'constructions all the way down'.

Like locative inversions and many another highly abstract constructions, it is well known that certain verbs are more likely than others to be found in a given construction. Stefanowitsch (2013, p. 293), for example, found that verbs such as *give, tell, send, ask, show* and *offer* very frequently occur in the ditransitive construction. However, it also been long noticed that some verbs do occur unexpectedly. To understand how novel verbs occur in particular syntactic structures, CxG research adopts a usage-based method to look at corpus (i.e., real-world) language data to probe into the mechanisms behind such phenomena. Such methods can include collostructional analysis (collexeme analysis, distinctive collexeme analysis and co-varying collexeme analysis; Boas, 2021b).

7.3.2. Argument structure

In CxG, as Goldberg (1995, see also Goldberg, 2006; 2019) proposes, Argument Structures have independent meaning and verbs can be fused with a construction, creating new semantics for particular verbs. To see the implications of the interaction of argument structures with verbs occurring in them, this section will provide a brief introduction of the research in argument structures and find out how those insights can be applied to the constructions under discussion in this project.

Recall that lexical items and argument structures are both categorised as constructions at different levels by CxG. One lexical item can have different meanings in different constructions, as we saw in (3), and also in the following pair given by Croft (2003):

(5) a. Tess *baked* a cake.

b. Tess *baked* Bill a cake.

(Croft, 2003, p. 49)

The verb *bake* in the first sentence is the most basic meaning of the verb *bake*, i.e., to create a food item following a specific set of steps, whereas the verb *bake* in the second sentence has an additional meaning as it also implies that the baked food will be transferred to someone else. In other words, some extra sense of meaning can be added even for the same verb when it appears in different syntactic environments (Croft, 2003, p. 50; Goldberg, 2019, p. 30).

Unlike the generative perspective which treats the two instances of the same verb differently based on the meaning of the verb itself, and would require separate lexical entries for them, cognitive CxG developed by Goldberg (1995) proposes that the additional meaning in the interpretation of the verb *bake* in the second sentence derives from the ditransitive construction. As one of the most discussed constructions in CxG, its meaning is proposed by Goldberg (1995, p. 32) as 'the agent … acts to cause transfer of an object to a recipient'. Therefore, the meaning of the sentence in (5b) must have been enriched by the meaning of the syntactic unit of ditransitive on top of the meaning of the verb itself, because the verb *bake* does not entail any sense of transferring objects. This point of view can be more clearly explained when the same verb appears in a pair of different argument structures with strikingly similar semantics. For example, see sentences as in (6), which appear to consist of the same parts:

(6) a. Bees are swarming in the garden.

b. The garden is swarming with bees.

(Goldberg, 1995, p. 2)

These two sentences seem to convey the same meaning, but a close look will reveal that (6a) means the bees are flying somewhere in the garden whereas the sentence in (6b) indicates that the garden has almost completely been taken over by flying bees, a meaning absent from (6a). Unlike a projectionist approach which assumes that sentences are projected solely from the lexical verb, CxG claims that there is no underlying syntactic or semantic form, and sentences are just the way they are in order to accommodate the pairings of meaning and form as well as function. This point leads to an important proposal that when the very same verb appears in closely related but syntactically different constructions like the ones in (6), the semantic differences will arise because of the differences in complement configurations (Goldberg, 1995, p. 2).

All the evidence now supports the point that those complex constructions, just like lexical items, have meanings of their own. Studies found that language users relied significantly on the argument structures just as they rely on the main verb when deciding the overall meaning of a sentence, indicating that Argument Structure Constructions play a substantial role in shaping the perceived meaning of sentences in language comprehension (Bencini & Goldberg, 2000; Gries & Wulff, 2005; Goldberg, 2019, p. 31). To further emphasise this point, Goldberg (2019, p. 34) argues that an argument structure construction will maintain its association with meaning even when the typical verbal form (of the main verb) is replaced by a nominal form (see also Goldwater & Markman, 2009; Kaschak & Glenberg, 2000), or more strikingly, even when the main verb is a nonsensical word without a pre-existing meaning (see also Johnson & Goldberg, 2013; Kako, 2006). Furthermore, even when the main verb is present but carries a meaning inconsistent with that of the construction, the construction itself still plays a role in influencing the overall meaning (see also Ambridge et al., 2014). The points listed here are to strongly support the idea that high level constructions such as these complicated argument structures themselves must contribute to the holistic semantic interpretation of the sentences. In other words, the meaning of a sentence is not determined merely by the meaning of its parts, but a result of how these parts, including the verb, interact with the construction they appear in.

From a cognitive perspective, constructions with simple argument structures are the linguistic realisation of human experience in everyday life to encode dynamic scenes (Clark, 1978; Slobin, 1985; Bowerman, 1994), termed as **experientially grounded gestalts** in

Goldberg (1995, p. 5). Those scenes – such as transferring an object, someone experiencing something, someone causing something to change, etc. – build up the fundamental blocks of real-world knowledge to help humans, especially in their language acquisition period, understand how the world is structured (Goldberg, 1995, p. 5). This idea is supported by the fact that in the early stages of learning a language, the verbs that are learned the earliest are those typically related to argument structure constructions. Such verbs include *go, put, make,* etc., which are categorised as 'general purpose verbs' by Clark (1978) (Goldberg, 1995, p. 40). Those verbs are commonly seen in the intransitive motion construction, the caused-motion construction, the resultative construction, and many others. More interestingly, this is not only the case in English but also in the acquisition of many other languages, such as Finnish, French, Korean, etc., strongly suggesting that these verbs of the most basic scenes of human experience related to argument structure constructions are encoded distinctly and universally in human cognition (Clark, 1978; Goldberg, 1995, p. 40; Bowerman, 1994). From the CxG perspective, these basic verbs and their argument structure can be employed as building blocks to form constructions that are more complex, and those constructions can further build more complex constructional networks in a language. For instance, in English, the caused-motion construction and the resultative construction are argued to be part of a network, as they both convey the meaning of some result that has been caused by exerting a certain degree of force on something (Goldberg, 1995).

It has to be pointed out that not all argument structure constructions are related to basic scenes of human experience; some constructions exist to cater for the requirements of information packaging. For example, in English the natural information flow is from old to new, and some constructions are designed to position old information to the beginning of a clause, or new information to the end of a clause, to ensure a successful information transmission (Goldberg, 2019, p. 42). Children and second language learners must pay extra attention to these aspects of language when they learn a language to grasp the pragmatics side of the utterance, which is vital in understanding the entire conversation in certain contexts.

In the large complicated constructional network that is language, many argument structure constructions are surprisingly similar syntactically, semantically or pragmatically, but they

cannot be identical in all those aspects at the same time. There is an in-built mechanism in language acquisition: *Synonymy Avoidance.* A child who knows the word for a plate will assume that any new words encountered in the context of plates will be referring to something else, e.g., to a quality of plates: *round*, *blue*, etc. (Wexler & Culicover, 1980; Markman, 1989; Clark, 1990). Goldberg appeals to this mechanism – which she calls *the principle of no synonymy* (Goldberg, 1995, p. 67) – to make a case why two constructions have to be different in at least one semantic, syntactic or pragmatic aspect. This is relevant to the present project, as all the three constructions of *there* existential, locative inversion and the hybrid construction are semantically synonymous, and syntactically related yet distinct. According to corollary A of *the principle of no synonymy*, i.e., If *two constructions are syntactically distinct and semantically synonymous, then they must not be pragmatically synonymous* (Goldberg, 1995, p. 67*)*, the pragmatics of the three constructions must be distinct. The way in which they are distinct will be further discussed in Chapter 9.

7.4. Polysemous constructions

The relations between verbs and constructions are of vital importance in the study of constructions. Through analysing how verbs such as *kick* can appear in eight different syntactic structures as in (3) repeated in (7), it is clear how polysemy can provide room for inventive combinations within constructions, thus encouraging speaker creativity.

(7)

a. Pat kicked the wall.
b. Pat kicked bob black and blue.
c. Pat kicked the football into the stadium.
d. Pat kicked at the football.
e. Pat kicked his foot against the chair.
f. Pat kicked bob the football.
g. The horse kicks.
h. Pat kicked his way out of the operating room.

(Goldberg, 1995, p. 11)

It has long been noticed that the same verb can show different interpretations in different construction environments, and the difference is not because the verb itself has different senses but is instead due to differences in those constructions themselves, which have a meaning that is independent of the verbs they contain (Goldberg, 1995, p. 24). This does not mean that a construction can override the meanings of its verbs. The relation between verbs and constructions is a more dynamic interaction, following both a bottom-up and top-down approach, which means that the construction can select which categories of verbs can appear in it, and the verb can select which construction it is compatible with (Goldberg, 1995, p. 24). The bottom-up approach is the equivalent of projection from the lexicon; the top-down approach is equivalent to **coercion**.

Certain verbs are predictably found in certain constructions, which can be attributed to the semantic relationships between a verb's semantics and a construction's semantics (Goldberg, 1995, p. 20; 1997). For example, in (8), the construction itself is the scene that determines the frame of something being transferred, but the verbs can vary to determine the specific manner/means of the action, such as *throw, toss, spike,* etc. In other words, the construction can, to some extent, determine which verbs will appear in it; for example, verbs like *smile, laugh, cook, stir,* etc. will not be acceptable in this construction because the core semantics of the verbs themselves are not compatible with it (Goldberg, 1995).

(8) John **kicked** Jack the ball.

However, a specific construction does not always have to have a single meaning, in that its meaning can change historically or due to specific context. Given that constructions have meanings of their own, they can in fact be argued to be polysemous in the same way as other basic linguistic units, like morphemes. This is what allows for the idea that constructions have a central meaning as well as a range of less central, less prototypical meanings, and that this is the force field in which the selection process of verbs operates (Goldberg, 1995, p. 32). The ditransitive construction, to name one example, has a core sense of an object being successfully transferred to someone, but there are more peripheral meanings in which the success of the transfer is not a central feature. The meaning of *Chris*

bakes Jan a cake, for instance, does not entail that Jan actually receives the cake; the transfer does not necessarily have to be completed, as it might be the case that the transfer is intended (Croft, 2003, p. 53-54; Goldberg, 1995). It is this polysemy of constructions that enables them to accommodate more than one (class of) verb into the syntactic structure, and the reason why it is often impossible to identify or specify coherent sets of verbs for any given construction. Speakers can exploit a construction's polysemy, as well as central and peripheral meanings of verbs, to come up with novel combinations that still "work" in terms of being understood (and appreciated!) by hearers.

The relationship between verbs and constructions can be seen from Goldberg (1997) who proposes different possibilities to account for the compatibility of verbs and constructions, such as elaboration, causal relations hypothesis, force dynamic relation hypothesis, preconditions, co-occurring activity.

7.5. Relations between verbs and constructions

It could be argued that verbs have richer meanings than constructions as they can appear in different constructions. Language users, having been exposed to the combinations of verbs and constructions, will deduce that there are some common patterns, and this is how constructions come into being (Goldberg, 2010). According to the maxim of relevance in Grice's co-operative principles (Huang, 2014, p. 29-30), language users are expected to exchange information that is relevant to the current topic and context. As a result, hearers will often find an interpretation for even very novel verbs when these verbs appear in constructions they are familiar with. On the other hand, language users are also using novel and creative language to impress other people (for humorous effects), to "up" their standing with their interlocutors. As a result, the relations between verbs and constructions are not one-to-one pairings but instead there are many possibilities in the dynamic. Given the fact that verbs and constructions both have their own meanings and constraints at the same time, there arises the question as to what constraints will apply to their combinations. This then leads to the crucial question to this research: what are the constraints on the locative inversion and the verbs appearing in it.

The lexical-conceptual structures of verbs can shed light on the interactions between verbs and higher constructions. Verbs usually designate subevents, mostly causally related, but the subevents can also be causally unrelated (Goldberg 2010). For example, the verb *blanch* encodes two subevents: (i) boil things in hot water and (ii) immerse them in cold water, but these are not causally related. The interaction between verbs and constructions has an effect very similar to the relation between subevents designated by verbs in that both the verb and the construction the verb appears to impose constraints on what makes the combination felicitous. This means that the relationship between verbs and constructions could be a causal relationship, a precondition relationship or a co-occurring relationship, similar to the relationship between subevents (Goldberg 1997; 2010). Goldberg labels these the elaboration, causal relations hypothesis (including means), force dynamic relation hypothesis (both causal), preconditions, and co-occurring activity.

7.5.1. Elaboration

The most basic relationship between verbs and construction is elaboration in which the verb itself elaborates the semantics of the construction. For example, the verb *give* is a perfect elaboration of one of the most discussed constructions – the ditransitive structure, in that this construction denotes the meaning of X CAUSES Y TO RECEIVE Z, which is also the semantic frame of the verb itself (Goldberg, 1997, p. 386). In the case of this project, many verbs are the elaboration of the constructions, for example, the verb *exist* is an elaboration of the *there* existential construction, such as the example in (9):

(9) There **exists** a particularly strong relationship with aircraft operations which frequently impacts upon the maintenance function.

(BNC, BP2 764)

7.5.2. Means

In other cases of the ditransitive construction, the function of the verb is to specify the means of how the action is achieved. For example, in *John kicked Jack the ball*, the verb *kick*

indicates the means of how the ball is transferred to the recipient. In the much-discussed *way* construction, attestation (10) is a good example of the means function of the verb.

(10) Joe **bought** his way into the exclusive country club.

(Goldberg, 1995, p. 205)

The verb *bought* specified that Joe joined the club by spending a lot of money to get access.

7.5.3. The Causal Relation Hypothesis

Another very frequently encountered relation is the causal relation. Based on speakers' acceptance of different pairs of similar verbs in the same constructions, Goldberg (1997) proposes the **Causal Relation Hypothesis,** where the relationship between the verb and the construction is causal. She compares the use of the same verb in two different contexts to illustrate the importance of the causal relation, see the examples in (11):

(11) a. The car **screeched** out of the driveway.

b. The bird **screeched** out of the tree.

(Goldberg, 1997, p. 388)

In (11a), the car makes the noise because of the driving action, but this implication does not exist in (11b) when the screeching just happens to co-occur with the flying action by the bird for speakers who find (11b) acceptable.

Unpicking the metonymical workings of the Causal Relation in constructions with verbs derived from nouns, like *kennel* in (12), involves the realisation that a simple causal event can potentially be divided into three parts, the agent, the instrument (optional) and result, and it is found that denominal verbs can always link to at least one of these three parts in an event metonymically (Goldberg, 1997). For example, in (12):

(12) The trainer **kennelled** the dogs.

(Goldberg, 1997, p. 388)

Kennel is a RESULT STANDS FOR THE ACTION LEADING TO THE RESULT metonymy. Other types of metonymies involved could be AGENT FOR ACTION PERFORMED BY AGENT, e.g., *Ken Houdini'd his way out of the mailbag*; INSTRUMENT FOR ACTION PERFORMED WITH INSTRUMENT, e.g., *Arthur wristed the ball over the net* (Goldberg, 1997, p. 390). Note that this is also a form of coercion, and hence relates to one of the research questions in this project about which novel verbs can occur in the locative inversion.

7.5.4. Force Dynamic Relation Hypothesis

The Force Dynamic Relation Hypothesis reveals a dynamic relationship between verb meanings and sentence structures, proposing an integrated understanding between the meanings designated by verbs and the constructions they are used in. This hypothesis offers a broader view, explaining diverse relations like causality, means, and metonymy within the linguistic domain. See the example in (13):

(13) Pat **locked** Chris out of the room.

(Goldberg, 1997, p. 392)

The construction in (13) itself denotes the scene X CAUSES Y TO MOVE Z, but this does not sit well with the negative sense of the sentence, which entails that Pat did NOT cause Chris to move out of the room. This example does not fit any of the relations mentioned above such as elaboration, means and causal relations. Instead, what this example shows is that there must exist a more dynamic relation between verbs and constructions than the mere sum of their parts. Nevertheless, the negative statement usually indicates that the positive assertion of the same proposition is presupposed; in another words, the negative statement is closely related to the positive assertion which is still in the same frame of the construction, and the interpretation is easily accessible in the context (Goldberg, 1997; Horn, 1989). The relation between verb and construction in this case is dynamic in that it takes both the senses of the verb and the frame of the construction as well as the discourse from a broad linguistic context into consideration. A Force Dynamic Relation Hypothesis

proposed by Goldberg (1997, p. 393) based on the *force dynamic* concept put forward by Talmy (1988) can be used to account for this case from a theoretical perspective:

> The meaning designated by the verb and the meaning designated by the construction must be integrated via a (temporally contiguous) force-dynamic relationship.
>
> (Goldberg, 1997, p. 393)

This hypothesis is a more general version of the Causal Relation Hypothesis and it can account for the relation possibilities of means and metonymy as discussed above.

7.5.5. Precondition and co-occurring activity

The Force Dynamic Relation Hypothesis can be used to explain most of the verbs in constructions, but there are other not so common types of relations beyond the scope of this hypothesis, such as Precondition and Co-occurring.

Take again the ditransitive construction as an example. Although at its core the construction itself conveys the sense of X Causes Y To Receive Z (Goldberg, 1995), other verbs, more peripheral than *give*, can also be found in it, such as *bake*, even though *bake* does not necessarily imply that the thing that has been baked is delivered to the recipient (Goldberg, 1995). For the recipient to be able to receive the baked goods, as conveyed by the semantics of the construction itself, the precondition will be the baking action to take place first, then someone can receive the cake afterwards, so *baking the cake* (the verb) is seen as a precondition of the meaning which the construction itself means to convey (Goldberg, 1997; 2010).

Another frequently discussed construction, the *way*-construction, shows a different possibility of the relation between verbs and constructions, namely co-occurring activity. For example, see (14):

(14) He seemed to be **whistling** his way along.

(Goldberg, 1997, p. 395)

The verb here only designates a co-occurring activity without creating any path for the movement or indicating any manner or means of the motion. In this case, there is no relation between the verb and the *Way*-construction other than the fact that they just take place at the same time.

7.6. Comparison of different approaches and how CxG can be used in this research

7.6.1. Variations of Construction Grammar

As explained in Section 7.1, unlike most other approaches in Construction Grammar (CxG), Sign-Based Construction Grammar (SBCG) is a formal generative model of CxG. It views languages as composed of signs at different levels, which can combine to form larger signs. These signs represent languages through feature structures that incorporate information from various areas, including syntax, semantics, phonology, morphology, and pragmatics. This branch of CxG is also categorised as Unification CxG by Goldberg (2006), although Sag et al. (2012, p. 56) point out that this name is misleading as Unification is in fact the name of the method rather than the theory. Setting the dispute over the name aside, this approach is regarded to be cumbersome as it has to represent every feature of every linguistic unit, resulting in a great deal of redundancy. Most crucially, these unification-based approaches might struggle to capture the nuanced and varied aspects of actual meaning due to their reliance on fixed rigid feature sets (Goldberg, 2006, p. 216).

As for Construction Grammar (also referred to as Cognitive CxG in the CxG community including in Goldberg, 2006), it is clearly indicated in the definition given by Goldberg (Goldberg, 2006) that we have seen above, that this branch of Construction Grammar is undoubtedly functional, since it investigates the functions of constructions from all levels. In fact, most constructionist approaches generally place a strong emphasis on the roles and structures of specific linguistic constructions, incorporating both their semantic and pragmatic aspects, e.g., information structure and discourse information (Goldberg & Suttle, 2010; Goldberg, 2006). In other words, learners naturally seek to attribute roles and

functions to various components of utterances. Without this inclination to analyse and break down linguistic strings, it would be challenging to ascribe meaning to specific words in sentences, thus impeding their language learning process (Goldberg, 2006, p. 63). In addition, different from the formalist approaches in SBCG, Goldberg's approach is, as we have already seen, largely usage-based, in that it places a strong emphasis on the actual use of language in diverse real-world contexts. It emphasises that linguistic knowledge is not solely derived from abstract rules or generalised principles but is deeply influenced by the patterns and constructions encountered in everyday communication. More importantly, this usage-based model allows for an empirically grounded theory of language learning. Instead of relying solely on theoretical constructs, CxG aims to understand how languages are learned by observing and analysing actual language use (Goldberg, 2006).

Finally, as the main theory that is adopted in this research, I will elaborate on Talmy's (2000a/b) approach in detail in the next chapter, to argue that it offers the best solution to answer the research questions about the verbs. For now, we first look at the functionalism of this approach. Talmy's approach lays great emphasis on the functions of linguistic units, not only in concrete linguistic environments, but also in the larger scope of human languages and human cognition. The approach and view he adopts in his account of cognitive semantics aligns with a functionalist perspective, e.g., there are two subsystems in language, namely, open class and closed class systems with complementary functions. These two subsystems have distinct roles in fulfilling different communicative and cognitive needs. His theory focuses largely on the language's functions in cognitive processes which will be illustrated and employed by this research as the primary theoretical framework.

7.6.2. How CxG can be used in this research

From a CxG point of view, constructions can be seen as specialised variants or parts of frames that store conceptual-semantics, syntactic and pragmatic knowledge all together in single units (Ungerer & Schmid, 2006). In the cases under discussion, the locative inversion, the existential *there* construction and the hybrid construction have quite subtle constraints on how they can be used felicitously. The three constructions are closely related to each

other in the sense of proposition, but they are different due to reasons such as the surveyability, information structure and contexts. They can be argued to be pairings of meanings and forms/functions, as these constructions have a meaning of their own that is not fully reconstructable by the meaning of its parts.

Verbs are licensed in these constructions if they are compatible with the constructional meaning, and these meanings can be accommodated or coerced, which explains unusual occurrences of verb like *work* in the locative inversion construction and *follow* in the existential *there* construction. In other words, the kinds of scenes and events those constructions encode are stored in long-term memory, and the reason why speakers know of this is that some verbs are used without their core meanings. For example, while the verb *sneeze* does not have a causative interpretation, when it is used in a construction as in (2), a causal interpretation is implied due to the meaning of the construction itself (Goldberg, 1995). The idea that constructions of higher levels such as argument structures have their own meaning has important implications in the investigation of how the locative inversion construction can coerce different verbs into it (as discussed in Chapter 5), which will be unveiled in the next chapter.

8. A Solution by Windowing of Attention

As it is now clear that the concept of frame is crucial to this research, it can be further employed in different approaches and theories such as Talmy's framing event and event frames, as well as windowing of attention, which are vital in finally explaining the appearance of novel verbs in locative inversion as well as in the other two constructions. To understand how these theories work, the concept of Perspective will be revisited from a more cognitive viewpoint to see how it inspires us to investigate the verbs in those constructions. This long chapter explores Talmy's theories in detail and hopes to provide a clear picture of how a functional and usage-based approach can tackle some seemingly daunting linguistic phenomena.

The structure of this chapter is organised as follows: section 8.1 introduces event structure and framing event; section 8.2 provides a detailed introduction of Perspective; section 8.3 introduces the path image schema in preparation for the windowing of attention theory; section 8.4 presents the theory of Windowing of Attention in detail; section 8.5 presents the key concepts of three paths in Windowing of Attention; section 8.6 looks into the fictive path in detail as it is the core of the explanation of the verb problem; section 8.7 tests the hypothesis and section 8.8 summarises the chapter.

8.1. Event structure and framing event

According to Talmy (1991) (see also Talmy, 2000b, p. 215), events have different structures which can further be categorised into simplex event and complex event. The structures of those two types of events depend on the language system itself; for example, a simplex event in English is structured as a single clause, while a complex event is constructed by a main clause and a subordinate clause with an adverbial subordinating conjunction.

As suggested by Talmy (1985), there is a process called conceptual conflation of events (*event integration* in Talmy, 2000b, p. 216) which can combine complex events that should have been represented by multiclause structure into one simplex event that is represented

by a single clause (Talmy, 1991; 2000b). The conflation result of this type of simplex event is termed as **macro-event** by Talmy (1991; 2000b) and they always have complex syntactic structure compared to basic single-clause sentences.

The most prominent event in the macro-event has the ability to depict a particular type of schematic structure in a certain set of organised conceptual domains. The main event as the domain-schematiser in the macro-event can determine the overarching patterns and the conceptual framework of the whole event. In Talmy (1991; 2000b), this is termed as **framing event** in that it provides a frame in which the overall temporal and spatial framework, the aspect of the sentence and the argument structure as well as the semantic character of the arguments make sense. Most importantly, framing event can determine the syntactic complement structure in a sentence which includes the macro-event (Talmy, 1991, p. 482).

There are five types of domain schematising events, an event of motion or location in space, an event of contouring in time (aspect), an event of change or constancy among states, an event of correlation among actions, and an event of fulfilment or confirmation in the domain of realisation (Talmy, 1991, p. 482). The most relevant type to this research is the event of motion or location in space which further includes four structural features, Figural Entity, Ground Elements, Activating Process and Relation Function (Talmy, 1991, p. 482-483; 2000b, p. 218).

Figural entity and **ground elements** have been introduced before in this thesis, in short, figural entity is the object that can move or stay still, and the ground elements are the background with locations against which the figure can stay or move. **Activating process** is the process during which the figural entity is either staying still or moving against the ground elements, and it mainly involves motion in the constructions under discussion in this project. The last component of those four structural features is called **relating function** (association function) which refers to how the figural entity is connecting to the ground elements, which in this case of the locative inversion (a motion event), is the **Path**.

Every framing event has to have at least one of those four features that is different from other framing events to distinguish itself from these other framing events, and the most important feature(s) that does this job is considered the **schematic core** of the framing

event, and it varies in different languages. This part is termed as **core schema**, in different languages and different framing events, the core schema can be either the relation function alone or the combination of relation function and the Ground elements, more importantly, the core schema plays a vital role in the syntactic configuration and mappings (Talmy, 1991, p. 483; 2000b, p. 218).

Subordinate events usually function as a supporting role to the main event to add extra circumstance to the macro event so as to enrich the framing event, thus the subordinate events are also termed as **supporting event** by Talmy (1991), and this relation is called **S-relation**. Examples of S-relation include Manner, Cause, Purpose, etc. Given the fact that the framing event is usually an abstract schema, such as certain constructions, the subordinate event tends to have more lively characters and might be semantically more primary than the framing event (Talmy, 1991, p. 484), such as giving more information about how the event is completed or how the result is achieved. In locative inversion, the framing event is the construction itself and the verb instantiates the subordinate event, so it should theoretically give more information about the macro event, such as Manner as will be discussed in the following sections. Nonetheless, the importance of the framing event itself should not be neglected as it shapes the construction in a macro perspective.

Different languages show different characteristic patterns when it comes to how the conceptual structures of the macro event map onto syntactic structures, and they can be roughly put into two different groups depending on which part of the core schema is expressed in the syntactic structure. To answer this question, Talmy (1991) proposes that there are two types of languages in this case; one is verb-framed languages and the other one is satellite-framed languages. Verb-framed languages express the core schema by the main verb, such as Romance and Japanese, etc., whereas instead of through the main verb, satellite-framed languages express the core schema via the satellites, such as Chinese, English, Finno-Ugric, etc.

It is worth explaining the concept of satellite as it plays the most important role in English when it comes to the framing event and core schema. Proposed by Talmy (1972; 1985; 1991), satellites refer to the satellites of the verb, being a free word or a bound affix, it has to be the sister of the verb root and at the same time, it cannot be the nominal complement

of the verb. It can have many forms in different languages, for example, in English, the satellites can be the verb particles and sometimes the prepositions appearing with verbs.

The framing satellite in satellite-framed languages is said to be able to express the core schema alone without the activating process, although it usually appears with a main verb with the verb functioning as the **supporting verb** (Talmy, 1991, p. 486). English is categorised as a satellite-framed language because it has framing satellites which means the satellites determine the core schema of the framing event, such as the location or movement of the figural entity in Motion event, and in a state-change type of framing event, the satellites in English such as *up* usually indicates the transition to a new state, such as *eat up*, *light up*, while the verb *eat* and *light* indicate the supporting event with Manner. This view is supported by Slobin (1996) by stating that English has a lot of verbs without explicit directionality, and the directionality is expressed flexibly and richly by satellites.

In Talmy's earlier work, like Talmy (1991), satellites in English are in general different from prepositions, but in Talmy (2000b, p. 102), he suggests that there is an indeterminacy in how to decide which constituents are satellites, as it is in a spectrum and the acceptancy varies greatly. He suggests that prepositions and satellites are often overlapping and can be used to indicate the Path in English, but some prepositions are not regarded as satellites, such as *of, from, toward,* etc. To further facilitate the understanding of the behaviours of these two categories, Talmy (2000b, p. 108) proposes a term 'satellite-preposition', 'satprep' for short to refer to the lexical items that behave as both satellites and prepositions. In later publications, Talmy (2008, p. 390) treats satellites and prepositions generally as the same category when it comes to the Motion event, as they both encode the Path of the event, in that he merges them as **satellite** that realises the Path. Therefore, in this study, satellite will be used to indicate the prepositions in the three constructions overall.

In motion framing event, satellite-framed languages such as English use the satellites to express the core schema, which is also the Path as in the example in (1), and the verb *float* is a supporting event to indicate the manner of the framing event.

(1) The bottle **floated out**.

(Talmy, 1991, p. 487)

Therefore, in (1), the most core meaning of the construction is the bottle being out, and the function of the verb, which is the supporting event, is to specify the manner in which this result is achieved. In fact, as argued by Talmy (1991, p. 488), in languages such as English, the core schema of the motion event is always expressed via path.

The same logic can be applied to locative inversion such as in (2), in that in locative inversion, the core schema (also the Path) is mapped onto the framing satellite *through*, and the verbs, no matter whether they are unergative or unaccusative, are supporting verbs to supply extra information to bear the S-relation such as manner (Talmy, 1991, p. 484), so the verbs matter less in the scope of the macro event and the framing event.

(2) Through the glass **shone** God's sun, setting the colours alight: blue, green, yellow, red.

(BNC A08 1836)

To sum up this section, according to the event conflation point of view proposed by Talmy (1991) as listed above, the locative inversion could be seen as a single event which is also called the framing satellite, plus the supporting event, which is supporting verbs, to form a **macro event** with the characters as explained above.

As a macro-event, the construction of locative inversion itself as a framing event plays the most important role in deciding the argument structure, semantic character and syntactic complement structure of the sentence which means it determines the syntactic properties and semantic properties of the verb (Talmy, 1991, p. 483). In this complex event, the core schema is expressed by the PP and the verb expresses the supporting event and it is the path instantiated by the PP that attracts the most attention in this macro event.

Some scholars have expressed similar views, such as Kudrnáčová (2006), who as we saw in Section 2.4, did a study to compare the different felicity of two prepositions 'into' and 'to' to argue that the appearance of the profile denoted by verbs other than *be* is more dynamic (Kudrnáčová, 2006, p. 3), but it is still a form of being somewhere. Most importantly, she points out that in the cases of motion event where the verbs such *come, go* are used to indicate the directed movement, the localisation of the profile receives the most semantic

importance, and thus attracts the most attention. In other words, in a common Motion event, the attention is paid mainly to the appearance rather than the Manner.

8.2. Introduction of Perspective

The concept of perspective was briefly introduced in earlier chapters (Section 4.6), indicating its significant role in the cognitive process of comprehending and generating language, especially when speakers are striving to complete the plan models of the three constructions explored in this project. It is now clear from Chapter 6, the discourse function of the locative inversion is assumed to be presentational: the speaker/writer presents a scene to the intended hearer/reader, so the hearer and reader can see or even feel what the potential observer is seeing. As mentioned in Section 4.6.5, the identity of the observer could vary among the parties involved in the communication process. However, as noted in Chapter 4, Webelhuth (2011) does not give enough information about the definition to help identify all cases of observer. This section will draw on more literature to provide a clearer and larger picture of the notion of perspective taking and the related concepts that matter the most to this project and see how it plays a crucial role in the Windowing of Attention theory (Talmy, 2000a). I will argue that the identification of the observer is not important as long as the perspective is allocentric (see below).

The concept of perspective taking is fundamental in the understanding of spatial configuration as suggested by many scholars (Beveridge & Pickering, 2013; Levinson, 2003; Brunyé et al., 2009; MacWhinney, 2005).

8.2.1. Spatial perspective taking

There are two levels of spatial perspective taking (Flavell et al., 1981; Michelon & Zacks, 2006); level one refers to the basic understanding of what objects in the physical world are visually available to another individual; for example, is there anything blocking the other person's view in some way? This level of spatial perspective taking is quite general and does not involve hard cognitive effort. By contrast, level 2 spatial perspective taking involves a

much more complicated cognitive process, in that it requires one person to realise the spatial configuration of the world from another person's view, for example, the layout of two objects when a person other than the speaker looks at them (Flavell et al., 1981; Michelon & Zacks, 2006). As a complex model of a mental task, the discourse function of the locative inversion construction is to present what the observer is seeing, which means that it mainly involves level 2 spatial perspective taking.

When dealing with level 2 perspective taking, there are three different types of reference frames, namely, intrinsic, absolute and relative frames (Levinson, 2003; Beveridge and Pickering, 2013, p. 2). The frames are important in the conversation among interlocuters which helps both speakers and addressees understand the spatial configuration of a scene. An **intrinsic reference frame** means that when a speaker describes an object, they do it against another object as a reference object, such as '*The table is in front of the sofa*'; this is a binary spatial relation. Unlike the intrinsic reference frame, where the reference object can in effect be movable, the reference in an **absolute reference frame** is naturally fixed, such as the cardinal directions of a compass or stable features of the environment, such as '*The small town is to the south of London*'; this is also a binary relation. The **relative reference frame** refers to the case when the speaker describes an object taking a perceiver and another object as the reference points, as in '*The car is to the left of the building (from where Mike is standing)*'. Even though it does not specify the position of the perceiver explicitly, his/her position still determines whether the car is to the left or right of the building from his/her point of view. The relative reference frame is fundamentally different from the previous two types because it involves the perspective from a potential observer who is not the speaker, and it is a ternary rather than a binary relation. These three reference frames interact with the notion of perspective in terms of whether the perspective is **egocentric** (one's own viewpoint), **allocentric** (someone else's viewpoint), or neither.

The mental maps of the egocentric and allocentric types have long been discussed and looked into by researchers in many different fields, for example, psycholinguistics (Beveridge & Pickering, 2013), brain sciences (Paillard, 1991), etc. Egocentric perspective means seeing something from someone's own viewpoint, whereas allocentric means seeing something from the perspective of someone else other than the ego. The flexibility of the

interaction of the frames and perspectives is especially hinted in the category of the relative reference frame. It is argued that the relative reference frame can be both allocentric and egocentric (refer to Beveridge & Pickering, 2013, p. 3). The complicated interaction between reference frames and perspective is beyond the scope of this current research, as the most important thing is to elicit the idea of how humans can adopt different reference frames and different perspectives during a conversation and how perspective taking is a type of very important cognitive ability.

Given that there are two overarching possibilities in the relative reference frame in spatial perspective taking, i.e., egocentric and allocentric, researchers tend to focus on what perspective people will adopt during a conversation or other scenarios of language comprehension and production. Such investigations have revealed that there is a strong tendency that speakers are more inclined to employ an allocentric perspective in a conversation, which is the perspective of the conversation partner (Beveridge & Pickering, 2013; Schober, 1993; Schober, 1995). For example, in a context where one interlocutor asks for directions, the other interlocutor tends to describe the route from the first interlocutor, the addressee's perspective, such as, *on your right is…, on your left you will see*… (Schober, 1993).

The spatial perspective taking in the course of a conversation is flexible in that the speaker may switch from allocentric to egocentric and vice versa depending on what the situation demands: making a request will require a different perspective taking compared to providing information (Yoon et al., 2012). This perspective switching follows a principle which Clark and Wilkes-Gibbs (1986) have termed *Least Collaborative Effort,* which means that speakers and listeners are shifting the burden of mutual comprehension to each other depending on the real-world situation in order to make the conversation flow as smoothly as possible. More interestingly, experiments found that in a conversation involving (at least) two people, when one interlocutor has high spatial ability compared to the other interlocutor, the person with high spatial ability will automatically accommodate the other person by noticeably taking the allocentric perspective, to make the conversation proceed successfully (Schober, 2009). In this experiment, the interlocutors are not aware of each other's spatial abilities, which can support the idea that conversation partners

subconsciously follow the *least collaborative effort* principle to maximise the resources available to them to collaboratively complete the communication task (Schober, 2009).

Recall that the three types of frames and two types of perspectives are interacting in a flexible way; in fact, during the perspective taking experiment, participants were found to take not only relative reference but also occasionally the other two reference frames, conforming to the proposal that perspective taking in conversations is not rigid but highly dynamic through the process of language comprehension (Watson et al., 2004). The traits of spatial perspective taking and the flexibility it features have the important implication that when the speaker knows the scene is not visible to the listener, they may well adopt an allocentric perspective, in order to enable the listener to visualise what they cannot see. As a reader will not be able to see the scene by default, writers will naturally tend to maximise ways in which they can help the reader visualise important scenes. This might explain why the three constructions of locative inversion, existential *there*, and the hybrid construction are more frequent in some genres than in others. As it can be seen that there are many possibilities of perspectives and frames in language use, especially in the spatial perspective taking, the three constructions are also interacting with it, as which has already been shown briefly in the previous chapters (e.g., Chapter 4). Different perspective taking is expected to have different popularity in different constructions, and we will come back to this topic in Chapter 9.

Seeing that perspective can be found in many different scenarios, such as the space, action and even in more complex situations, such as the commercial frame, it is reasonable to have it upgraded to a conceptual level by cognitive linguists as briefly discussed in Ungerer and Schmid (2006, p. 207-210). Perspective indicates where one's attention is directed cognitively, and this direction does not have to be spatial but could be other aspects (see Section 8.2.3.1 for more detail) that attract one's attention in a given situation, such as in macro events (Talmy, 2000a & b).

8.2.2. Perspective taking in Talmy's (2000a) account

Understanding the importance of perspective and accepting perspective as a cognitive notion, Talmy (2000a) uses Windowing of Attention to elicit some fundamentally key theories in his cognitive linguistics (cognitive semantics) account of language and its relations with human cognition. The schematic system of Perspective is one of the three schematic systems proposed by Talmy (2000a) which he then discusses at full length in his book. The three schematic systems jointly lay the foundation of the idea of Windowing of Attention, which is the focus of this project to solve the verb problems of the three constructions under discussion. In this section, the concept of Perspective will be explored from Talmy's (2000a) point of view which is closely related yet slightly different from the one introduced above, and the other two schematic systems, namely**, configurational structure** and **distribution of attention,** will also be introduced in order to help understand the theory of windowing of attention.

To begin with, the concept of schematic systems is worth introducing to ease the understanding of the framework in cognitive linguistics proposed by Talmy (2000a). A schematic system is a group of grammars that can help to understand some common properties of semantics of both lexical and more complex grammar. He suggests that these systems are keys for languages to structure conceptions. The first main schematic system is called Configurational Structure which deals with the overall spatial, temporal configuration or other qualitative domains that a construction can form (Talmy, 2000a, p. 47). One example is the boundedness that has been discussed above under the topic of coercion in Section 5.5.2 (see Talmy, 2000a, p. 50). This schematic system plays an important part in this project in that it also deals with scene partitioning of a whole complex referent scene. For instance, the referent scene of the English verb 'serve' can be partitioned into four primary components, an action, an item being served, and a social relationship involving the roles of 'host' and 'guest' (Talmy, 2000a, p. 66). This logic can be applied to the construction of locative inversion as it involves complex event structures (see Section 8.1). The other two schematic systems will be introduced in full length in this chapter.

8.2.3. Different aspects of Perspective

8.2.3.1. Perspective location

Based on the reinterpretation that perspective is cognitive rather than merely syntactic, perspective is described as the 'mental eyes' that a person uses to observe the entities in question, which include categories such as spatial or temporal positioning, distance, change of location, path, and direction to the entity (Talmy, 2000a, p. 68). In the following sections, the most relevant categories such as perspectival location, distance, and mode will be introduced based on the illustration in Talmy (2000a, p. 68-76).

First of all, there is no doubt that the location of the observer is of vital importance for the readers/addressees to understand the situation in storytelling or a conversation. The **deictic centre** can help to locate from what or whose point of view the referent scene is being observed and how the perspective might keep changing during the information flow. Take Talmy's (2000a) sentence as an example, see (3):

(3) She sat in the rocker near her bed and looked out the window. How lovely the sky was![2]

(Talmy, 2000a, p. 68)

This is an interestingly vivid example as it not only shows the different possibilities of perspective taking but also shows how the perspectival location can easily be quite dynamically changed. In the first sentence, the writer uses the pronoun to describe the ordinary scene, inviting the readers to see what the writer herself is seeing. The perspectival location here is somewhere in the room, so the woman is visually accessible to anyone inside the room. However, the subjective narrative in the second part of the example indicates that the scene is observed from the woman's eyes; the readers have to use her eyes to see the beautiful sky outside through the window in her room (2000a, p. 69).

In another pair of examples where the proposition meanings are strikingly identical while the syntactic structures are different, the position of perspective point can be quickly

[2] Note that the second sentence reflects a literary device called "Free Indirect Discourse" – the reader needs to interpret it as a thought inside the protagonist's head. The use of Free Indirect Discourse is actually a relative innovation in fiction (see Fludernik 1995).

distinguished by speakers of English with common geometric knowledge, which can further show that perspective taking and recognition is key to human cognition. See the sentences taken from Talmy (2000a) in (4):

(4) a. Interior: The lunchroom door slowly opened and two men walked in.

b. Exterior: Two men slowly opened the lunchroom door and walked in.

Talmy (2000a, p. 69)

By looking at the first sentence, a fluent English user would be highly likely to conclude that the observer is inside the lunchroom in (4a) as there is no initiator of the event expressed in the clause of the event, which means that the two men who walked in from outside this space are not visible to the observers. By contrast, following the same visibility principle, the two men are present linguistically in the clause (first half of the sentence) in (4b) expressing the event, therefore the perspective point must be outside instead of being inside the lunchroom. This comparison once again shows that perspective taking is closely related to human cognition and it is rooted in a person's conceptual and cognitive competence.

8.2.3.2. Perspectival distance

Another relevant concept is "perspectival distance", which refers to the distance between the observer and the entity. This category can be further divided into three sub-classes: distal, medial, and proximal, which can have considerable impact on conceptual aspects related to scope, size, and level of detail of a reference point. More specifically, with a distal perspective, there is a conceptual association involving a broader focus of attention, a perception of diminished object size, a coarser level of organisation and less intricate detail. By contrast, with a proximal perspective, there is a conception connection involving a narrower focus of attention, a perception of enlarged object size, a finer level of organisation and more intricate detail (Talmy 2000a, p. 69-70).

8.2.3.3. Perspectival mode

The category of "perspectival mode" deals with perspectival mobility. There are two options here, namely, stationary or moving. This category interacts closely with the previous category in that the stationary perspective point is usually distal, whereas the moving perspective point is mostly proximal. The perspectival mode can be further divided into two modes, synoptic mode and sequential mode. See the definition given by Talmy (2000a) in (5):

(5) a. Synoptic mode: the adoption of a stationary distal perspective point with global scope of attention

b. Sequential mode: the adoption of a moving proximal perspective point with local scope of attention

(Talmy, 2000a, p. 70)

Although these two modes seem to be each other's opposites, they are interchangeable when it comes to a certain scene, which means they are alternatives that represent the exact same scene. To illustrate this point, see (6):

(6) a. There are some houses in the valley.

b. There is a house every now and then through the valley.

Talmy (2000a, p. 71)

These two sentences are in effect describing one same single scene; the perspectival modes are different in that the scope of attention in (6a) is more global and holistic with blurred structuring and fewer details, while in (6b) the scope of attention is local with finer structuring and more details.

8.2.4. Distribution of attention

While two of the three schematic systems have been introduced previously in this chapter, which jointly attribute a configuration to an object and establish a viewpoint from which to observe it, the third schematic system is called "the distribution of attention" and governs how hearers/readers distribute their focus across the provided structure from that particular viewpoint. In this system, there are three elements that can have great impact on the results of attention distribution in a given scene. The first key element is "strength of attention", which can vary from subtle to strong. There are two ways that the use of syntactic structures can manipulate the strength of attention: (i) on a zero-based scale, ranging from low to high, which could be termed as prominence or salience in linguistics; or (ii) on a norm-based scale, which means that a fixed norm can function as a standard for the reference point, and any value that is either higher or lower than this value would be considered **foregrounded** or **backgrounded** (Talmy, 2000a, p. 76).

The second key element in this system is called "pattern of attention" and pertains to the arrangement of attention, dealing with the combination of various strengths of attention into specific configurations. There are several distinct configurations that constructions can specify, for example, focus of attention and **window of attention**. Focus of attention is characterised by a central-peripheral arrangement with higher attentional strength located in the central area, while lower attentional strength is allocated in the surrounding areas. One clear illustration of this type is the **figure-ground** organisation which will be explored later in this chapter. The next pattern is called window of attention in which one or more separate regions within a scene receive greater attention while the rest of the scene receives reduced attention. This pattern as well as the abovementioned scale of foregrounding and backgrounding will be of vital importance in dealing with the attentional allocation when it comes to locative inversion, as will be discussed in full length later (Talmy, 2000a, p. 76-77).

The third factor is mapping of attention which means the mapping of specific components in the attentional patterns onto the particular areas within the scene being observed. To illustrate, in Fillmore's (1982) classic commercial example (also see Fillmore, 1977), by applying the focus of attention pattern introduced above, the focal attention can be

mapped onto the BUYER as in (7a), backgrounding the rest of the scene; in (7b), the same can be done to the SELLER in a different construction:

(7) a. David bought an old shirt from John for ten pounds.

b. John sold an old shirt to David for ten pounds.

(Ungerer & Schmid, 2006, p. 208)

The rest of scene such as the Goods, the Buyer, and the Money is automatically backgrounded. Note that when the focus changes in accordance with different syntactic constructions, the contents of this particular scene do not undergo any change. This ties closely with the concept of perspective introduced earlier, more specifically, syntactic perspective (Ungerer & Schmid, 2006, p. 208), as the difference in syntax determines how the scene is described from different points of view. This gives important hints that the information-structural differences in the three constructions under discussion are largely due to the differences in perspective.

8.3. Path image schema

First of all, the concept of image schema has to be introduced in order to better understand the locative relations indicated by prepositions. Proposed by Johnson (1987) and mainly developed by Lakoff (1987) and detailed by Oakley (2012), this concept contributes significantly to research areas such as cognitive development, linguistic theories of grammar, psycholinguistics, mathematics and even computational modelling.

The concept of image schema has significant importance in comprehending the fundamental elements and connections within human cognition and language in that it frequently occurs in ordinary human activities (Ungerer & Schmid, 2006, p. 109). Basic daily tasks, such as visiting a library, require intricate coordination of sensory experiences, perception, movement, and conceptualisation. More specifically, going to the library involves a seemingly simple but in fact quite complex process: first, one has to make one's way to the library, choose the books one prefers, then bring them to the checkout counter,

print the receipt, borrow the books, leave the library and return home with the books. All these elements are jointly functioning in this simple act, and image schemas are dynamic and flexible mental constructs used to redescribe the spatial or temporal patterns of bodily experience (sensory experiences), and humans' perceptual experience schematically (Oakley, 2012, p. 215). Image schemas are regarded as the building blocks for structuring humans' understanding of the world. Unlike fixed templates, image schemas are flexible preconceptual patterns used for reasoning and organising knowledge across various contexts. They bridge the gap between sensory perception and abstract conceptualisation, allowing individuals to make sense of their experiences and engage in cognitive processes (Oakley, 2012; Ungerer & Schmid, 2006).

There are some important image schemas that have been identified by linguists (Johnson, 1987, p. 126), such as CONTAINER, PATH, CENTRE-PERIPHERY, NEAR-FAR, SCALE, PART-WHOLE, FULL-EMPTY, ITERATION, PROCESS, ETC. Many of them are involved in the perceptual process of metonymy and metaphor that have been discussed in previous sections (see Section 5.5.1). Among them, the Path schema is of the central status in the discussion of the construction of locative inversion, *there*-existential and hybrid construction under discussion in this project. A path image schema can be illustrated by the instances of prepositions as they are used to indicate the path of movement of moving or movable entities. In the following sections, the essential concepts such as **figure, ground, path**, will be explained by using examples from different literature as well as data from BNC collected for this project. Additionally, to ease the understanding of path of the figure against the background, another pair of concepts, namely, trajector and landmark will also be introduced by citing literature from cognitive linguistics (Langacker, 1987, p. 217).

8.3.1. Figure and Ground

The concepts of Figure and Ground (Talmy, 1972) were borrowed from Gestalt psychology and subsequently deeply rooted in the field of cognitive linguistics, as these concepts deal with the distribution of attention that is one of the core topics in language and human cognition. They play a crucial role not only in spatial configuration, but also in other

situations, such as temporal, causal, etc. (Talmy, 2000a, p. 311). As all the three constructions in this project mainly involve spatial configuration, only the Figure and Ground in space will be discussed in full detail.

Recall that we discussed the distribution of attention in Section 8.2.4; humans' attention is allocated according to different levels of visual and auditory input, thus the most basic logic behind the distinction between figure and ground lies in the idea of different levels of prominence of various parts in a particular scene (Ungerer & Schmid, 2006, p. 163; see also Yantis, 2001 and Gordon, 2004). Generally, the figure tends to have a specific and visibly definite shape or contour showing the structure of the entity, making it stand out of the background environment. Ground, on the other hand, usually lacks form and appears shapeless, showing characteristics of being unstructured without clear prominent contours. Additionally, the figure is often, although not invariably, positioned in front of the ground, and hence can be more easily identified and remembered by the viewers, in what Ungerer and Schmid (2006, p. 164) term the **perceptual prominence** of the figure. In fact, the recognition of figure follows an important principle of *Prägnanz* in Gestalt Psychology proposed by Koffka (1935, republished 2002), cited by Ungerer and Schmid (2006, p. 36) as in (8):

(8)

- Principle of proximity: individual elements with a small distance between them will be perceived as being somehow related to each other;
- Principle of similarity: individual elements that are similar tend to be perceived as one common segment;
- Principle of closure: perceptual organization tends to be anchored in closed figures (e.g., when seeing a partially drawn circle with a small gap, human mind tends to complete the missing portion, allowing us to perceive it as a closed circle);
- Principle of continuation: elements will be perceived as wholes if they only have few interruptions.

(Ungerer & Schmid, 2006, p. 36)

These principles are the determinant factors in confirming the identity of the Figure in a referent scene with reference to the Ground. There is one more factor that is not listed above but actually of the most vital importance: the Figure is usually movable. In a motion event frame, the Figure is the one entity that can, although it does not have to, move by itself or by another force. Naturally, in a motion event frame, the moving object will automatically attract humans' attention with a more prominent status compared to the background functioning as the referent point. When describing a scene of a moving or movable object, the relationship between the Figure and Ground is realised linguistically by using locative prepositions (Ungerer & Schmid, 2006, p. 166).

Figure and Ground appear as nominals in language related to space and can be found in motion events or locations. In a single clause of event of motion or location, Figure is the item expressed by an NP that is moving or located somewhere, whereas Ground, also expressed by an NP, is the reference point or the anchor against which the Figure is moving along or located (Talmy, 2000a). See the following example in (9) and (10):

(9) a. The pen lay on the table.

b. The pen rolled off the table.

(Talmy, 2000a, p. 311)

(10) In the sky shines the star which reminds him of his childhood.

(BNC EE5 1023)

In (9a-b), the pen is the Figure as it is the prominent object, and the table plays the role of the Ground as it is the background or the reference point to help accentuate the movement or the existence of another physical object. As has been noted, the Figure does not have to move, but will be an entity that is conceptually movable, while Ground must have a fixed context within the reference frame along with the Figure (Talmy, 2000a, p. 312). This idea is even more convincing when *the stars* in (10) are in fact moving although the scene looks static, but it is undoubtedly the Figure while the sky is the Ground.

8.3.2. Path

When the Figure is moving along against the Ground object as the background, there will be a route to show the movement of the Figure, named as the Path (Talmy, 2000a, p. 312; Ungerer & Schmid, 2006, p. 168). There are three main types of paths, namely, open path, closed path, and fictive path. These three concepts show important cognitive processes which will be discussed below, and the concept of path is the key to understanding the windowing of attention theory as well as how the verbs in locative inversion interact with the construction itself.

8.3.2.1. Trajector and landmark

Before introducing the different paths, two other closely related concepts are worth noting, namely, trajector and landmark proposed by Langacker (1987, p. 217). Trajector and landmark are more specific instances of the more broadly known concepts of Figure and Ground (Ungerer & Schmid, 2006, p. 168; Langacker, 1987, p. 231), and they can particularly assist the understanding of the movement of the Figure in a specific scene because, as what Langacker (1987, p. 217) indicates, the term trajector itself suggests motion. The name trajector is from the word *trajectory* which means the path of a moving object, such as a bullet or a missile. In cognitive linguistics, the trajector is without doubt the same as the Figure as it is the most prominent entity according to what has been introduced above. In this system, the Ground plays the role of landmark as it is the reference point for the orientation of the moving object—the trajector (Ungerer & Schmid, 2006, p. 168). The trajector-and-landmark pair seems to be more vivid and conceptually easier to understand when it comes to the motion in movement and location relationships between two entities; thus, these two pairs of Figure/Ground versus trajector/landmark will be used interchangeably in the following text.

A central schematic description of a preposition that indicates the cognitive configuration of the motion or location of an entity can be illustrated as follows as in (11):

(11)

a trajector (Figure), which moves along

a path, and is seen as being related to

a landmark (Ground).

(Ungerer & Schmid, 2006, p. 170)

It is crucial to highlight that the three components do not have to be all present at the same time; for example, in many instances of the preposition *out*, the relation could be seen as the final stage of a motion instead of the entirety of the path. See the example in (12):

(12) She stays out.

(Ungerer & Schmid, 2006, p. 172)

She being out is the final stage of she moving out of the space where the observer stays. In this case, this 'out' schema is not complete, but the use of the preposition is still easily processed by users of English. These partially-filled configurations are called **elaborations**, and can be used to illustrate many locative relations. In fact, most cases in locative inversion belong to the case of elaboration instead of the entire realisation of the path image schema. More specifically, most locative inversion cases may be the final stage of the image schema. In the next section, the windowing of attention will look into this in depth from a cognitive perspective.

Another very important implication of the elaboration of the path schema is that the interpretation could seem static instead of dynamic. This implication will help to understand many instances when the verbs in locative inversion are other than *be* verbs, and are supposed to indicate movement but in fact can indicate a state of **dynamic existence** (Kudrnáčová, 2006).

The same could be seen in the following example, see (13):

(13) Across the square **ran** the open sewer of the village.

(BNC CLD 1456)

As an intransitive verb, *run* indicates movement, but in (13) it looks like the motion is static because the semantic weight carried by the verb is quite low and the directionality of the path is bleached.

8.4. From event frame to windowing of attention

This section will unveil the windowing of attention theory and the event frame (Talmy, 2000a, p. 257-309) in full length to connect many concepts illustrated before, such as frame, Figure, Ground, Path, trajector, landmark, image schema, etc., to see how this theory can be used to analyse the locative inversion construction.

Developed from the notion of frame by Fillmore (1982), which later has been developed by Fillmore and Atkins (1992) (see Section 7.2 above), the concept of event-frame proposed by Talmy (2000a, p. 259) illustrates how the idea of frame evolved from a simple linguistic phenomenon to a cognitive issue. See (14):

(14)

- "a set of conceptual elements and interrelationships that… are evoked together or co-evoke each other can be said to lie within or constitute an event frame, while the elements that are conceived of as incidental – whether evoked weakly or not at all - lie outside the event frame."

(Talmy, 2000a, p. 259)

This event frame is different from Fillmore's idea of frame primarily in two aspects. While Fillmore emphasises how different related concepts are evoked together at the same time, Talmy's event frame also pays attention to how the core element can be distinguished from the incidentals, which will be detailed in the motion event frame analysis later for locative inversion. In addition, the frames in Fillmore's theory tend to be defined or identified within a certain language(s) or specific cultural contexts, but Talmy's frame event has a wider scope, connecting to more general human cognitive systems regardless of language

differences, for example, it could be closely related to some innately determined mechanisms such as visual perception (Talmy, 2000a, p. 260).

There are five commonly seen types of event frames, namely, agentive causation event frame, cyclic event frame, participant-interaction event frame, interrelationship event frame and motion event frame (Talmy, 2000a, p. 260-261), and each is formed with different cognitive components depending on the specific type of event frame (Ungerer & Schmid, 2006, p. 220). Particularly relevant to this study, the conceptual structure of a Motion event frame can be divided into different parts, **Figure, Ground, Path, Motion, Manner and Cause.** The first three are thoroughly introduced in the previous sections, so it is now easy to understand the components of Figure, Ground, and Path, as they are essential in forming any motion event. As for the motion component, many might take it for granted; nevertheless, in some cases, there is no overt motion involved at all, in what Ungerer and Schmid (2006, p. 220) refer to as zero-motion, although the event is still categorised as a motion event, see (15):

(15) In the kitchen stood a large bag of coke.

(BNC A68 85)

In this instance of locative inversion, the verb *stood* only indicates the static locative relations between the Figures and the Ground with the Figure totally movable (see Section 8.3.2.1 for path elaborations), but there is no motion involved in this event. Therefore, it is reasonable to add Motion, functioning as something like a marker, to the components of the motion event. Manner refers to the way in which the trajector moves, for example, as in the locative inversion instances listed in (Section 6.2 & 6.3: verbs in locative inversion), such as *lurk, fly, in* (16):

(16) a. In the woods **lurk** beasts that walk like men. (BNC CN1 1128)

b. On the mast **flew** the red lion of Lusignan, and at the helm, they knew, was Mick Crackbene. (BNC BP0 3052)

The component Cause refers to the reason why the movement occurs or the trajector stays still; it is more peripheral compared to the five other components as it is often not

expressed in an overt way linguistically. The components Cause and Manner are both optional even at the same time in a motion event, as can be seen from the following examples in (17):

(17) a. Under each seat was a packet. (BNC AJD 520)

b. On the corner was a huge oak tree. (BNC ABS 512)

c. In the house was a picture of the original gallery. (BNC AP8 560)

It can be seen that in the motion event, the Figure could be located in some place without any explicit Manner and Cause or even Motion, rendering it static, which is the case with most instances of locative inversion in the BNC data; nonetheless, as suggested, it could be seen as the elaboration of an image schema. Similarly, just like the zero-motion idea, there is still a path in terms of what Ungerer and Schmid (2006, p. 220) refer to as a zero-path, termed "fictive path" by Talmy (2000a, p. 269-270); this will be discussed later in Section 8.5.3. Due to their peripheral status, the components Manner and Cause are treated as 'co-event' in Talmy's (2000b, p. 217-220) event complex approach (see also Section 8.1).

Another point to note, which is in fact already clear from the instances listed above, is that although these six cognitive components play important roles in the conceptual configuration of the motion event frame, it is not necessary for them to occur in the same sentence all simultaneously. Consider an English sentence, such as in (18):

(18) The pencil stuck on the table (after I glued it).

(Talmy, 2000b, p. 26)

In this sentence of locatedness (a type of motion), there is a Figure (the pencil), Motion (stuck), Path (on), Ground (the table) and Cause (stuck), because the verb *stick* also denotes the Cause when it explains why the figure is static.

It is clear now that these six components have different levels of importance in a motion event, with Figure, Path and Ground as well as Motion being the core components, and Manner and Cause being less important. Any components other than these, for example time, geographic locale, etc. are considered outside the motion event frame.

The windowing of attention theory has been mentioned in Section (8.2.4) under the umbrella of distribution of attention within one of the three schematic systems that are essential to humans' cognitive system of language (Talmy, 2000a). This theory proposes the idea of the cognitive representation when humans process the information in a framing event, in that individuals focus their attention on specific elements of a scene or a situation while paying less attention to or ignoring the remaining elements. The "window" represents the limited cognitive capacity for processing information, and individuals choose what to pay attention to within this window. What is inside the window is what individuals actively process, and what is outside is temporarily ignored or less attended to. More specifically, the parts that attract the most attention are said to be foregrounded when viewers/hearers see the scene or process the information in sentences within a certain event frame; this cognitive process is called **windowing.** By contrast, other conceptual elements during this process will be automatically backgrounded, which is called **gapping**, and the backgrounded components of the event frame are referred to as being gapped (Talmy, 2000a, p. 258-259). One common way to do this is to leave the gapped parts of the sentence or the scene out linguistically, i.e., unexpressed, which will be illustrated with the Path windowing below. This theory plays a significant role in understanding how people perceive and make sense of the world around them. This concept is often used to explain how people prioritise and structure their attention when interpreting complex situations or linguistic descriptions. Additionally, as will be seen, this window can be expanded or contracted to include more or less information as will be explained in different mixed windowing modes that are possible in Path windowing.

In the context of motion event frames, the theory argues that the path of motion is the most salient aspect of the event (also see framing event concept in Section 8.1) and is therefore most likely to be windowed. This is because the path provides information about the trajectory of the object in motion and its relation to other objects in the environment. Other aspects of motion events, such as Manner or Cause, may also be windowed in rare cases if additional or abundant information, such as speed, posture, gestures, or any other relevant features that characterise the manner of the motion are provided; Manner and Cause are generally considered less salient than Path. To conclude, it is typically the Path component that is most amenable to attentional windowing, allowing for shifts in focus and

detail along the path of a motion event. While other components, like Manner, may play a role in describing the motion event, they are not typically described as being windowed in the same way as the Path. In fact, this point is supported by Ungerer and Schmid (2006, p. 222), who clearly point out that "it is along the PATH component that a number of attentional windows can be 'opened' or 'closed'", thus the motion event frame can be conceptually spliced into different segments or parts, emphasising some and de-emphasising others, based on the relations between the trajector and the landmark.

It is now clear that the windows of attention are almost only applicable to the Path in the motion event frame, so the term Path windowing will be used to specify the particular type of windowing. In the windowing process, the Path component that attracts the greatest attention can be further sliced into different portions such as initial, medial and final stage (Talmy, 2000a, p. 259), which can be illustrated with different PPs in a single scene, see the example taken from Ungerer and Schmid (2006, p. 221) in (19):

(19) Louis Blériot flew across the English Channel from Les Baraques to Dover.

(Adapted from Ungerer & Schmid, 2006, p. 221)

The first spatial adverbial across the channel is a realisation of the entire Path component (also medial windowing) of this motion event frame, with the other two spatial adverbials *from Les Baraques* and *to Dover* indicate the initial windowing and final windowing of the Path respectively. This theory also suggests that humans' attentional system has the capacity to selectively highlight and process specific parts of a path in greater detail, essentially making them more prominent or foregrounded in mental representation. In other words, the windows of a Path can also be mixed parts of the whole trajectory from the starting point to the destination. As a result, the Paths are not always realised fully linguistically, as I discussed above in the elaboration concept. In a real-world context, the Path can be realised in many forms, and the three different stages of windowing of attention and initial, medial, and final gapping can be combined quite freely. See the examples given by Talmy (2000a, p. 266) in (20):

(20) The crate that was in the aircraft's cargo bay fell *out of the plane through the air into the ocean*.

This sentence to indicate the same path could also be:

a. The crate that was in the aircraft's cargo bay fell *out of the plane into the ocean*. [**initial + final windowing with medial gapping]**

b. The crate that was in the aircraft's cargo bay fell *through the air into the ocean*. [**medial + final windowing with initial gapping]**

c. The crate that was in the aircraft's cargo bay fell *out of the plane through the air*. [**initial + medial windowing with final gapping]**

d. The crate that was in the aircraft's cargo bay fell *out of the plane*. [**initial windowing with medial + final gapping]**

e. The crate that was in the aircraft's cargo bay fell *through the air*. [**medial windowing with initial + final gapping]**

f. The crate that was in the aircraft's cargo bay fell *into the ocean*. [**final windowing with initial + meidial gapping]**

(Talmy, 2000a, p. 266)

Those varieties are all representations of the same path that indicates the movement of the trajector *the crate* against the landmark *the aircraft's cargo bay* with different windowing and gapping. (20a) is initial + final windowing with medial gapping; (20b) is medial + final windowing with initial gapping; (20c) is initial + medial windowing with final gapping; (20d) is initial windowing with medial + final gapping; (20e) is medial windowing with initial + final gapping; (20f) is final windowing with initial + medial gapping (Talmy, 2000a, p. 266). According to this theory, even if in these cases when the whole path is not expressed in its entirety, the hearer can still complete the path perceptually if given enough context. For example, as in (20a), it is very obvious that the object has to fall through the air into the ocean; also in (20e), the context is highly like to involve other information talking about the ocean or the elements related in the same frame. In the case where the path is only partially windowed, the foregrounded parts receive more cognitive processing resources. As a result

of this increased cognitive processing, the foregrounded segments of the path become more detailed and finely grained in mental representations.

Therefore, it is safe to say that even if viewers' attention is focused on specific part(s) or segment(s) of the path, as in the patterns shown above, they still have an overall conceptualisation or mental representation of the entire path. This point is especially important on the hearer's side, as the path entirety will make sure that hearers can recover the complete trajectory if given enough contextual information (Talmy 2000a: 265; Ungerer and Schmid 2006: 223). In other words, even if the attention is paid on only segments of the path, individuals can still maintain a holistic understanding of the entire movement of the trajector.

8.5. Three paths

To gain a clearer picture of how those concepts can be employed in explaining the structures of locative inversion, the three types of paths will be analysed in detail within the framework of windowing of attention (Talmy, 2000a).

8.5.1. Open path

The cases in the example (20) above are in fact categorised as open paths by Talmy (2000a, p. 265), which denote a path traced by a physically moving object over a specific duration. It is conceptualised as a continuous whole with distinct starting and ending points located in different spatial positions. The path is open as opposed to closed, which will become clearer in the next section when we discuss closed paths.

Most instances of locative inversion with verbs other than *be* belong to this category in terms of the way that the trajector-NP moves in its journey from one point to another point, see the examples in (21):

(21) a. Behind the cadets **marched** (unergative) three hundred uniformed women soldiers of the army. (BNC G0D 497)

b. Down the stairs **came** (unaccusative) the cat, sullen-eyed. (BNC AD1 749)

c. Through the snow **strode** (unergative) a visitor. (BNC AC5 2402)

d. From the fissure **poured** lava, blood-red lava glowing like the fires of hell in the night (BNC A6T 839).

e. Through the door **hurries** Gordon Stainforth, bespectacled and preoccupied (BNC ECH 987).

f. In front **rode** Mr Rochester on his black horse, and with him rode a beautiful lady, her black curls streaming in the wind (BNC FR6 1114).

g. At the front **walked** the funeral director Tophatted and cane in his hand (BNC KAS 217).

h. Across the high viaduct **rumbles** a late train. (BNC J13 3204)

In (21a), the path is not the whole trajectory; instead, there is medial windowing with a starting point and ending point not explicitly gapped, and not linguistically expressed. In (21b), the windowed portion of the path is the initial portion of the path. In (21c), it is the medial windowing as it does not specify where the visitor starts the journey, and it does not point out where the visitor is going, but if given more information, as in the following text in (22), the hearer will easily understand the situation.

(22)

Through the snow strode a visitor. He came in at the side door as though he knew his own way.

'You'll find her in the drawing-room,' Dot heard Mrs Hollidaye say. 'Yes, she's simply full of beans now.'

He didn't wear a white jacket like hospital doctors but a heavy greatcoat with the collar turned up and boots dampened with slush. But Dot knew he was a doctor because his hands smelled clean and soapy.

(BNC AC5 2402)

According to the text, it can be seen that the visitor is a doctor which means he probably starts from a hospital or a clinic, and the ending point is indoors in this scene, given right after the locative inversion sentence.

8.5.2. Closed path

The closed paths are the cases with a circular path when the starting point of the trajector moves along a route and then ends at the same point as where it started. Here, too, there are three portions in the path that can be windowed, namely the departure (initial), the being away (the medial) and the return (final). This type of path can be easily illustrated by the imperative in a conversation as shown in (23):

(23) I need the milk. *Go get it out of the refrigerator and bring it here.*

(Talmy, 2000a, p. 268)

The second sentence can be spliced into three parts, with *go* being the initial window, *get it out of the refrigerator* the medial window and *bring it here* being the final window. Like the open path, the windows in the closed paths can also be freely combined or stand alone, except for the initial windowing as it is a single verb *go*. This type is not involved in the instances of locative inversion but helps to reemphasise the importance of the path component in event frames within Talmy's windowing of attention framework.

8.5.3. Fictive paths (fictive open paths)

The last type of path in motion event frame according to Talmy (2000a) is called fictive path, in which the location of the trajector remains unchanged during the entire time with zero-motion as explained above when we discussed the essential components in motion event frame. Although there is no conceptually visible route of the movement of the trajector, the attention directed by the movable object in this path follows a mental spatial schema, which

is why it can be seen as having an imaginary path that a speaker creates in the mind of the listener while describing a motion event. To understand how this path is completed, see the example in (24):

(24) a. My bike is leaning against the lamppost across the street from the bakery. **[maximal windowing**]

b. My bike is across the street from the bakery. **[initial and medial windowing]**

c. My bike is leaning against the lamppost across from the bakery. **[initial and final windowing]**

d. My bike is leaning against the lamppost across the street. **[medial and final windowing]**

(Adapted from Ungerer & Schmid, 2006, p. 225 and Talmy, 2000a, p. 269)

In a scenario where one person asks to borrow a bike from another person, the owner can use the sentence in (24) to guide the hearer's attention following a fictive path, starting from a noticeable point nearby *the bakery* and explaining its relation to where the bike can be found. At the time of the speaker's utterance, the hearer will first visualise the location of *the bakery*, and follow the imaginary route *across the street*, then come to the end point of the route *the lamppost*, which is where the bike can be found. In this way, the usually static description indicated by *be across* is rendered dynamic to have fictive motion. This phenomenon results from a contrast between what a speaker or listener believes about the real meaning of a sentence and the actual meaning of the words used in the sentence. In fictive paths, the interpretation based on belief is regarded as more accurate or true than the literal reference of the linguistic forms. More specifically, in the cases where the verb suggests that there is no motion involved, such as in (24) and many other cases with verb *be* in locative inversion, there is a belief that the path should exist. Consequently, the interpretation based on the linguistics forms is called fictive, while the belief-based interpretation is called factive, a term proposed by Talmy (2000a, p. 100) which is to describe the representation as considered to be more truthful. Being factive does not convey objective but subjective truthfulness in cognitive assessment (Talmy, 2000a, p. 100).

The cognitive aspects used to establish an event frame for an open path of physical motion, as discussed previously, can also be applied to define a fictive path. The only difference is that there is no real motion involved in the fictive path, but a fictive path is pretty close to an open path rather than the closed paths in terms of the windowing system. In this sentence as in (24a), the initial windowing is clearly *from the bakery*, the medial windowing is *across the street*, the final windowing is *against the lamppost,* jointly forming the entire path. Similar to the other two paths, the three portions of the fictive path can be quite freely combined to form different types of windowing expressed explicitly linguistically as shown above.

8.6. Types of fictive motion and paths

This section will elaborate the concept of fictive motion to show how this is the most helpful framework in understanding the locative construction. This will become clear with the evidence of its ability to account well for the appearance of novel verbs collected from the BNC for this project (see Appendix 1).

This specific type of fictive motion in (24) above is termed as **access paths** by Talmy (2000a, p. 136-137) which is the most common path type found in locative inversion. As a common cognitive phenomenon, besides the access paths, there are many other types of fictive paths with fictive motion which are conceptually configured and linguistically realised in languages, such as orientation paths, radiation paths, shadow paths and sensory paths, each with different sub-types (Talmy, 2000a, p. 105-116). The most relevant ones which are involved in the verbs found in locative inversion will be discussed in this section.

Beginning with the orientation paths, this category is composed of five subtypes, namely, prospect paths, alignment paths, demonstrative paths, targeting paths, line of sight, all of which share the common property that the imaginary line starts from the front of the entity - the leading side of the entity (Talmy, 2000a, p. 105-111). For example, in the case when one person goes across another person, it usually means the first person moves from one side of the 'imaginary protagonist' to the other side from the front, indicating that there is a fictive line starting from the front of the 'imaginary protagonist'. Additionally, the entity

itself as a line can also move with the path. Among those fictive types, only the most relevant types will be listed in this section. The first type of path to help us understand this idea is called **prospect path**. See the example in (25):

(25) The cliff wall faces toward/away from/into/past the valley.

(Talmy, 2000a, p. 108)

Prospect in this context refers to the way or manner in which the cliff 'views' or 'perceives' its surroundings. It is used to describe how the cliff appears to interact with its environment from its front-facing aspect, as if it were observing or engaging with the landscape around. In other words, it indicates the perspective or viewpoint from which the cliff 'sees' the surrounding area, given its front-facing orientation. The fictive path is construed as having intangible lines emitting from the front side with fictive eyes and steadily extends to meet the valley afar. In reality, obviously there is no visibly physical path occurring in this process as all the entities in this scenario are factively static and this is why it is called a fictive path.

One pair of interesting concepts might be helpful in understanding the way in which inanimate entities are humanised, namely, peripersonal space and extrapersonal space. Studies conducted by many researchers, such as Cowey et al., (1994), strongly suggest that the human brain has two systems for understanding space: peripersonal space, which is the area near the body within arm's reach, and extrapersonal space, which extends beyond arm's reach. Peripersonal space helps control arm, hand, and head movements, especially for tasks like reaching and avoiding objects. Extrapersonal space is where visual search, object scanning, and recognition happen, allowing us to see and analyse things beyond our immediate reach. Additionally, peripersonal space monitors arm and hand actions concerning the face. The brain distinguishes between these spaces, with peripersonal space focusing on bodily interactions, and extrapersonal space aiding in visually acquiring and analysing objects using the eyes. In summary, peripersonal space is for close interactions, while extrapersonal space deals with observing and understanding things at a distance (Kemmerer, 1999, cited Cowey et al., 1994).

The inanimate entities can be said to have peripersonal space and extrapersonal space when they are humanised. For example, in the example (25), the cliff has its own

extrapersonal space that extends beyond arm's reach to the valley that it can visually scan or search the space afar. This scanning and observing task could be done aided with fictive lines. There is no instance of extrapersonal space found in BNC that fits into this prospect path category, but it helps us to understand the idea of fictive path and how this cognitive concept permeates the way humans can mentally construct paths. For the peripersonal space, see the next subsection when I discuss the *snake* example.

8.6.1. Alignment paths

Unlike the previous path, the alignment path deals with how to conceptualise the orientation of a linear object. See the example in (26):

(26) The snake is lying toward/away from the light.

(Talmy, 2000a, p. 108)

This type of fictive path might reveal how humans conceptualise such objects in general, with an intangible line starting from one of its ends that is oriented towards the direction in which the object is moving or positioned. This imaginary line travels along a path that coincides with the object's central axis and it then forms a certain spatial relationship with the reference object. More specifically, in the case in (26), the front end is the head of the snake, and it could be seen to emit an intangible line all the way forward, and this line together with its body forming the axis that is either continuing away from the light, or towards the light. The idea introduced above can also be applied to this situation, as *the snake* can be treated as an 'imaginary protagonist' to have its own peripersonal space, and extrapersonal space that continues beyond the space near itself to form an extensive, although fictive, path.

More importantly for this research, this type of fictive path can help illuminate the phenomenon of coercion. Specifically, it shows how constructions that include PP can modify or shift the meaning of a verb. *Lie* usually indicates any type of shapes if only the object is stationary, for example, the snake may be coiled, or in any other shapes, as long as it is staying still on the ground. What's more, its head can be pointing at any direction.

However, if *lie* is used in this specific construction with the PP *toward* or *away*, the semantics of the verb *lie* is coerced, or changed, into only indicating one direction, with the whole body being a straight line, and with the head either pointing the light source, or away the light source (Talmy, 2000a, p. 108-109). This is a good example of how the construction with PP enforces a different semantic interpretation of the verb and accounts for the coercion of these verbs with fictive motion in the locative inversion construction. Here are some examples from my own BNC data (27):

(27) a. Between stacks **weave** ramps and runways fronted by columns of video-tape recorders and audio cassette players, 30 of each.

(BNC B7M 992)

b. From the lip **trailed** two white mandarin moustaches like pulpy tubers.

(BNC FP7 2611)

In (27a), the ramps and runways are conceptualised, similar to *the snake*, as having a front end—a head that directs the weaving path. This endows them with an 'imaginary protagonist' status, possessing their own peripersonal space and extrapersonal space that extends forward.

8.6.2. Radiation paths

Unlike the orientation path, the radiation path has visible lines, such as the rays emanating from an illumination or a light. See the examples in (28):

(28) The sun is shining into the cave/onto the back wall of the cave.

(Talmy, 2000a, p. 112)

The light generated from the light source, travels through the space in the form of beam to the earth along a straight path. Nonetheless, the radiation path itself does not show any visible motion, as it is still a conceptualisation, confirming its status as a type of fictive path.

There are many instances of locative inversion with this type of verb, such as *shine, gleam*, etc., see (29):

(29) a. Through the glass **shone** God's sun, setting the colours alight: blue, green, yellow, red. (BBC A08 1836)

b. Through the trees **shimmered** the 150-acre tarn. (BBC F9H 686)

c. Among the rocks **gleamed** multi-coloured stones; pink and white, veined with black and green, and some running with rust. (BNC CME 1009)

d. In the sky **shines** the star which reminds him of his childhood. (BNC EE5 1023)

e. Through the frosted window **blazed** the cold light of winter morning; sidelight, the most harsh. (BNC GUM 3106)

f. On the screen **flicker** black-and-white images. (BNC AKS 67)

8.6.3. Sensory path

This category refers to the case where the experiencer encounters smells, sounds or sights which can be conceptualised as having intangible lines moving between the experiencer and the experienced, even though the experiencer is not expressed in the text. The sensory paths are categorised as fictive paths as there is intuitively no visible motion that can be detected by human eyes (Talmy, 2000a, p. 115). See (30):

(30) a. From the kitchen **wafts** the fragrance of fresh-baked minor miracles. (BBC HGN 624)

b. From the speakers **drones** the voice of Max Von Sydow. (BNC AKS 68)

c. Outside the window **sounded** the thin blast of a whistle as a train prepared to leave the platform. (BBC FNU 120)

d. Inside the business school **chimed** the melody that meant the change of lessons. (BNC FP0 2667)

e. From a nearby room **filtered** strains of Baroque music. (BNC C8D 1853)

f. Through the open window **floated** the sound of traffic, and then above this the boom of Big Ben sounding the hour. (BNC H85 2200)

There is also one very interesting case of the sensory path, which is not listed in Talmy's categories but can be legitimately regarded as an instance of this type, see (31):

(31) Over the stone **rushes** the wind able to mingle with nothing, like the hearing of the blind stone itself. (BNC H8R 1616)

The wind in this scenario is invisible but the tactile sense can detect the movement of the air, thus it is also a case of fictive path.

8.6.4. Other types of fictive paths

Besides the multiple types that are involved in locative inversion, there are some types other than emanation that are found very frequently in language use, including instances of locative inversion.

8.6.4.1. Pattern paths

The pattern path refers to the category where the individual entities gradually form a path that can fictively travel through space, as shown in (32):

(32) As I painted the ceiling, (a line of) paint spots slowly progressed across the floor.

(Talmy, 2000a, p. 129)

Although these drops of paint follow a non-fictive trajectory through space by falling down the brush onto the floor, the selection of the verb *progress* indicates that the pattern they make on the floor is conceived of as a fictive path – even though it is the brush that is actually travelling (in the speaker's hand). Other examples could include any types where an

existing pattern is being added to, which could be conceptualised as the front end of the path of the 'imaginary protagonist'. Potential examples of locative inversion from my BNC data are instances such as (33), where the speaker's gaze follows the patterns made by the individual medals which appear to progress along the wall to form a path that could continue forward.

(33) Along one wall **stretch** Maurice's medals: medals for marathons, for half-marathons, for fell runs and flat runs, medals from Split, New York and Melbourne. (BNC AJY 1009)

8.6.4.2. Advent paths

As indicated by its name, this type refers to the cases where an entity appears at certain points along fictive paths with fictive motion. This type has two main subtypes, see the examples below in (34):

(34) a. The palm trees **clustered** together around the oasis.

b. This rock formation **occurs/recurs/appears/reappears/shows** up near volcanoes.

(Talmy, 2000a, p. 135)

These two subtypes differ significantly. In sentence (34a), the language suggests a fictive motion where the palm trees seem to be gathering from the surrounding area to the oasis, even though, in reality, they have always been growing in that specific location. This type is termed "site arrival" by Talmy (2000a, p. 135). In comparison, the conceptualisation of (34b) involves an entity appearing out of nowhere to occupy a certain place; it is considered fictive because it is evident that the rock has been occupying this site for quite a long time instead of manifesting itself at the moment of the utterance. See example (35) from BNC:

(35) Across the canyon **rose** illimani's triple summit, glinting in the dawn light and far grander than in our tiny photo, while to the right the untold delights of the Cordillera Real began to unfold. (BNC ECG 1099)

8.6.4.3. Coextension paths

This type refers to the case where an object, regardless of its shape, can be portrayed as spreading across space by envisioning a path that covers its entire extent. It is regarded as a fictive path because the fictive representation involves visualising an entity moving across or along this object's shape. This fictive entity could be in many forms and shapes, such as an observer, the focal point of attention, or even the object itself (Talmy, 2000a, p. 138). Nonetheless, in reality, the factual representation portrays the object as stationary with no real entity travelling along the imagined path. This type is one of the most common types found in the instances in locative inversion in my BNC data, as can be seen in the following sentences in (36):

(36) a. On the left **stretched** a huge park where the waters of a lake shone. (BNC HTJ 775)

b. Through the squalor **threaded** a well-guarded street. (BNC GVL 1244)

c. Across the square **ran** the open sewer of the village. (BNC CLD 1456) (Could also be like the weaving paths)

d. Through Samara **passed** the chief railway lines from Siberia and Central Asia, bringing in diseases of all kinds from the east. (BNC A64 1209)

e. Beyond the two standing figures **flows** the River Axe (BNC B0R 970).

8.7. Testing "outliers"

This section reviews the verbs found with the locative inversion construction in the entire BNC; the verb *be* accounts for the vast majority of cases, followed by verbs of position and verbs of motion; but the focus of this section is on locative inversion with unexpected, novel verbs that cannot be identified as belonging to any of the categories of verbs discussed in the literature as occurring in the locative inversion construction. We will see that these outliers all conform to the notion that the preverbal PP and the verb combine to create a path. As such, they confirm the value of this notion as a way to account for the felicity and the selection of individual verbs in the construction.

As has been illustrated above, the majority (more than 2/3) cases of locative inversion are with BE-verbs which belong to the "access" fictive paths, see (37):

(37) a. On the right **are** some rocks, and at the foot of them the sheep are feeding. (BNC A04 1363)

b. Over the fireplace **is** a piece of older panelling, probably rescued from the earlier frontage. (BNC AB4 845)

c. Inside the front door **was** a glass case containing the sword, scabbard, swagger stick, cap and uniform shirt of Manuel Noriega. (BNC ABS 540)

d. Beyond the Golden Room **is** a further room of art and then a temperature-controlled room of old clocks, one of the finest collections in Italy. (BNC ANB 752)

Most verbs other than *be* verbs in locative inversion belong to one of the fictive path categories listed above to denote a fictive path that does not indicate factive motion at all; instead, it is the existence of the entity that matters, so they are functionally very like the instances with BE. Such verbs include the cases of what is categorised by L&RH (1995) as unaccusative verbs and unergative verbs, as well as cases of verbs that do not fall into these categories. Nevertheless, they all indicate fictive paths in the contexts where they appear with locative inversion in the BNC, regardless of their lexical semantics; see the examples in (38):

(38) a. In the shady spots **flourished** hostas, and in the full sun, nasturtiums, clarkias, stocks and geraniums bloomed. (BNC A0R 2965)

b. At the other end **emerge** still useful uranium, for potential reuse in reactors, plutonium, which, according to its quality, can be used for either bombs or as fuel in a fast breeder reactor (see Chapter Three); and a cocktail of liquid waste products. (BNC AN9 472)

c. Into Japanese hands **fell** Rockefeller Centre in New York, Firestone in Ohio and Columbia Pictures in Hollywood. (BNC ABJ 3896)

d. Inside each brown case **waited** the empty skull-face, folded flat, with a flappy rubber nose and hard cylindrical snout, though they frightened Dot less now than they used to. (BNC AC5 2188)

e. Along the ride edges **grow** cowslip, cuckoo flower, greater stitchwort, wood spurge, wood violet, bugle, yellow archangel and wild strawberry. (BNC F9H 1624)

f. Over a radiator **hung** three pairs of Denise's tights, long dry. (BNC GUM 2886)

g. At the next table **sit** two fine specimens of Mancunian youth. (BNC CAD 613)

h. Above the col **jutted** the imposing obelisk of Ama Dablam. (BNC ECG 949)

i. Behind a grey stone wall **lay** a little pool. (BNC F9H 706)

j. On a stone wall **perched** a black bird with a white bib: it was a ring ouzel, a bird of mountain and moor land. (BNC F9H 1285)

k. Beneath the cliff **nestled** primroses, ragged robin, pink thrift, sea camp ion, birds foot trefoil, yellow pimpernel, milkwort. (BNC F9H 1892)

l. In the front seat **rested** the body of a girl. (BNC G3E 201)

m. In the chair **crouched** the figure of Vanessa Dersingham, stitching a tapestry. (BNC HA2 1027)

n. Outside the front door **stood** the patients, including two men and three young girls. (BNC CHG 1408)

o. Above the little child **hovered** a large angel, luminously white, with wings made to look like burnished gold. (BNC ADA 1934)

p. At 5 Woolley Street **live** Richard and Pamela Nadin who deal in unusual and rather strong pieces, often with a touch of the Gothicks. (BNC A7D 1931)

q. In the centre **loomed** a squat Tower of brown stone up which the shade steadily crept as the shadows on the ground reached out into nothing and were lost. (BNC BMX 2044)

r. In the woods **lurk** beasts that walk like men. (BNC CN1 1128)

s. Around the hulk **clung** the waxen coils of the hydra like some giant wreath of spilled intestines. (BNC CM4 2645)

Summing up, in the instances of the fictive paths, the motion event frame of a verb includes at least the four core components, namely, Figure, Ground, Path and Motion (including zero-motion). They can be further divided into two sub-categories. First, the verbs themselves could indicate no motion at all, such as *be* verbs, *stood, sit, lie,* but in the construction of locative inversion, the combination of the initial PP and the verb coerce the creation of a path, in that the construction forces the reader to construct a meaning for the verb that is not its core meaning of position, but a meaning nuance that focuses on existence. Thus, the path is termed fictive, indicating no movement. In the second category, containing verbs other than *be* and positional verbs, the core semantics of the verbs entail motion, and they, similarly, also form a path, which appears to indicate movement, with the pre-verbal PP in the locative construction. Nonetheless, they do not represent factive motion as I explained in the previous section—we are still dealing with fictive paths, conveying no sense of any visually-detectable movement. In both cases, it is the attention of the observers that is moving instead of the physical objects depicted by the postverbal NPs. This is in fact the most surprising aspect of these verbs in the construction: that even though these verbs are motion verbs, they do not denote factive motion of the physical object they are associated with; instead, these physical objects are factively stationary. This is completely in accordance with the discourse function of the locative inversion construction, which is to introduce the existence or appearance of new referents.

Accepting this account for the verbs in the locative inversion construction, it is now easy to understand the appearance of novel, unexpected, and hence infrequent verbs in this construction, verbs that are not categorised by Talmy (2000a) but can similarly be argued to have a fictive path: the status of the fictive motion can be inferred from the contextual

information. This also proves that language is very dynamic, with a constant change in the overall information flow. For example, see the case in (39):

(39) In every bush **fluttered** tired passerines: wheat ears, chiffchaffs, white throats, whinchats, willow warblers and linnets. (BNC F9H 1022)

Even though there seems to be motion, there is no indication that the location of the entire entity—the birds has changed if the environment is taken as a reference. The same applies to (40) below:

(40) a. Under the creeper bindings **twitched** stumps of flightless wings. (BNC G3P 1538)

b. On screen **bounced** Kylie Minogue and Jason Donovan. (BNC CHG 1408)

In each of these examples, the verb is used to denote a fictive path, implying a path or direction without actual change of location. Even in (40b) where the verb seems to indicate some movement, the focus is on the appearance of the two figures, with the verb "bounce" being used metaphorically to imply that Kylie Minogue and Jason Donovan's on-screen presence or performance is dynamic, engaging, and full of energy. They capture the viewer's attention and interest, much like how a ball might bounce and grab one's attention, and there is a sense that they are assumed to be well-known to the readers, who can appreciate the truth of this description from their own knowledge of these performers' behaviour on screen. Therefore, the appearance sense is much more foregrounded compared to the manner-of-motion sense (bouncing). Two further examples of infrequent verbs in the locative construction, also denoting fictive paths, are *flit* and *fell*, because from the contextual information it is clear that no factive motion is involved, as shown in (41):

(41) a. Behind the new anti-Modernism **flits** the shadow of that old anti-Modernist D. H. Lawrence. (BNC CKN 1001)

b. Into Japanese hands **fell** Rockefeller Centre in New York, Firestone in Ohio and Columbia Pictures in Hollywood. (BNC ABJ 3896)

Not all our outlier verbs denote fictive paths coerced by the combination of preverbal PP and postverbal NP. The remaining set include *flap, strode, hover* (with a different

interpretation)*, fly, linger, hurry, ride, twitch, march,* and emission verbs such as *pour* and *spring.* These verbs seem to depict open paths and closed paths, rather than fictive paths. These examples appear to involve motion, so at first sight they do not seem to conform to the discourse function of locative inversion, i.e., to present the existence or appearance of an entity. Nevertheless, a closer investigation will reveal that coercion plays the key role in assisting the felicity of the novel verbs in locative inversion.

To understand the complicated mechanism behind this, now let us bring all the relevant concepts together. According to the elaborations of the path concept explained above (Section 8.3.2.1), the initial PPs in the locative inversion construction are always part of the path, whether they represent the initial, medial or final portions of the path, and are windowed accordingly. Recall that in the previous sections we saw that Talmy (1991) argues that in English, Path in Motion event is the element expressing the core schema, while verbs encoding Manner reflect the optionally supporting event. The result is that the components instantiating Path have the most central status. Therefore, in Motion event-frame, only the Path components can be windowed, and get the lion's share of the cognitive attention required in the entire task of information processing. Other parts will be backgrounded as co-event, such as Manner and Cause, etc. (Talmy, 2000b, p. 217-220).

Recall also that constructions are sets of event-frames, like the most frequently discussed frames, i.e., the caused-motion construction and the ditransitive construction, and the frame tends to correspond with the relevant syntactic elements accordingly. Constructions are pairings of meaning and form, so that the locative inversion construction by definition has its own meaning, as has been shown in the previous text (see Section 7.3 for CxG). So in the conceptualisation of locative inversion, the attention of windowing is closely paired with the structure of the construction itself; the distribution of attention in processing is allocating more attention to the Path. This means that as a satellite-framed language, in English the sentence-initial locative element, the PP, as the path (the schematic core), gets the primary attention, while the verb, which encodes the Manner of the motion, gets the secondary attention. In Talmy's (2000a) terms, this can be called foregrounding and backgrounding, which means that the Manner matters less in this situation. What's more, according to Michaelis's Override Principle (see Section 5.4.3), the construction's meaning always overrides the semantics of the lexical items occurring in it; the result is that the

construction allows a multiplicity of classes of verbs into this construction, as long as the verbs can be coerced by the context to convey the core discourse function of the construction, which is to present the appearance/existence of the Figure.

Taking all the evidence into consideration, this entire process is proposed to be driven by the mechanism that we call **coercion**, as long as the path can contribute to the appearance/emergence/existence of the postverbal NP. As a result, many verbs can be used in this construction freely because the structure forces the manner described by the verb to take on a secondary role, with the focus shifting to the idea of something appearing, emerging, or existing. Under the premise of satisfying the need to convey the appearance, emergence or existence of an entity, as required by the discourse function of the construction, speakers/writers will use verbs very creatively to make the presence of the NP vivid, emphasising creativity in language use.

Notably, many verbs used in locative inversion that indicate factive rather than fictive paths share a common trait: the motion they describe is very slow. Consider, for instance, a verb like *trundle*, which means moving slowly, as in (42)

(42) Behind the road-builders **trundled** wagons laden with graded stone to be pounded and pulverised into place to make a road which was intended to last for centuries to come.

(BNC HHC 750)

From other examples, it can also be seen that not only the verbs themselves, but also the postverbal NP jointly determine the felicity of the sentences (Mendikoetxea 2006), such as in the *rumble* case in example (43):

(43) Across the high viaduct **rumbles** a late train. (BNC J13 713)

In this case, even though *rumble* is usually used to indicate the noise itself or an object making noise, the NP after the verb coerces a non-core nuance of its semantics, to represent an entity moving slowly while making a continuous noise. This is similar to a case that is mentioned in Section 7.5.3 about the connection between verbs and the construction-causal relation, such that the *car makes the noise because it moves.* This dynamic relation can also be argued to be involved in the examples below, where *pour* and

spring are both substance emission verbs, but have totally different interpretations depending on the context, see (44).

(44) a. From that mistaken belief **springs** the evil of social engineering, which, at its worst, results in bureaucracy seeking to manipulate entire populations. (BNC BNH 1004)

b. From the fissure **poured** lava, blood-red lava glowing like the fires of hell in the night. (BNC A6T 839)

In (44a), the path is fictive, but in (44b) there is an open path. Note that this, once again, shows how the felicity of the verbs in locative inversion is determined by not only the PP (Kudrnáčová, 2006) but also by the postverbal NP and the overall context. What's more, even the same verb can evoke very different interpretations in terms of mental representation, see (45):

(45) a. Above the little child **hovered** a large angel, luminously white, with wings made to look like burnished gold. (BNC ADA 1934)

b. Outside the door **hovered** Alfred, detailed by Auguste to serve drinks when royalty had arrived. (BNC H8A 609)

The first sentence indicates no factive motion, whereas the second sentence indicates an open path.

8.8. Conclusion

This chapter introduces the concept of perspective including egocentric and allocentric perspective, and windowing of attention, including three different paths. The fictive path is shown to be the key to explaining the unexpected verbs in locative inversion as those verbs in fact do not convey any real movement. For verbs that can form an open path, they indicate real movement, yet their manner of motion is backgrounded by the mechanism of coercion along with the discourse function of this construction. Thus, they primarily present the state of the motion instead of the manner of the motion in accordance with the discourse function, confirming that the construction in effect has more power than the

lexical items appearing in it. This mechanism makes it possible for speakers to use language creatively. The approach outlined in this chapter also shows the value of a functional and usage-based analysis in linguistic research.

9. Comparison of the Three Constructions

As it is now clear how the locative inversion construction can select individual verbs according to the windowing of attention theory, this section will explore the verbs in the *there* construction and the hybrid construction to see if they exhibit unexpected characteristics. In addition, to verify the discourse function of each construction, I will investigate whether the constructions under consideration show any preference for particular genres. All the data are, once again, extracted from the BNC, but due to the limitations of the websites used to extract the data, different methods are used to obtain the data for each construction.

For genres, the retrieval process was much more difficult, even though the BNC includes this type of information. There is just no straightforward way to reveal it, for *there* existential construction, I used English Corpora (see below); for the other two constructions, I had to resort to Python to process the BNC data downloaded from the official website. I then used a package called nltk to run through the raw data, with Python coding retrieving the information of construction and genre. The results regarding the genre distribution of locative inversion were very interesting but not surprising, with "fiction: prose" being the most popular genre. To make it as clear as possible, I will list the individual method used for exploring each construction.

9.1. The *there* construction

9.1.1. Methodology

To collect the data of the *there* existential construction, the English Corpora (formerly known as BYU corpora) prove to be very useful. Firstly, to make sure all the three constructions are from the same corpus, I chose the BNC on the English Corpora site [https://www.english-corpora.org/bnc/]. The steps to retrieve the data are as follows: on the search bar, type in [. There VERB+], select 'list', and then click *find matching strings*.

Following these steps, 57984 instances of potential *there*-existential construction were obtained, which includes some statistical noise, especially with verbs such as *graduate, promise, look,* etc. and some modal/aspectual/raising verbs such as '*happen to'*, '*tend to*', '*seem to*', etc. More importantly in the case of the verbs that only appear once in the results, I filtered them individually to check whether the construction they appear in is indeed the *there* existential one. Finally, using the same query but selecting the 'chart' option, information as to the genre of the results will be revealed.

9.1.2. Results

After a thorough examination, the following verbs are found in this search, apart from the most frequent verb, which is *be*: *follow, appear, remain, arise, arrive, come, exist, stand, develop, lie, occur, lurk, linger, grow, emerge, stretch.*

A close look reveals that they all belong to what L&RH (1995, p. 281-282) categorise as verbs of existence, appearance, inherently directed motion and verbs of spatial configuration, which shows that verbs in this construction are purely existential, i.e., denoting either appearance or existence, aligning with its discourse function as observed and verified by the literature.

9.1.3. Genres

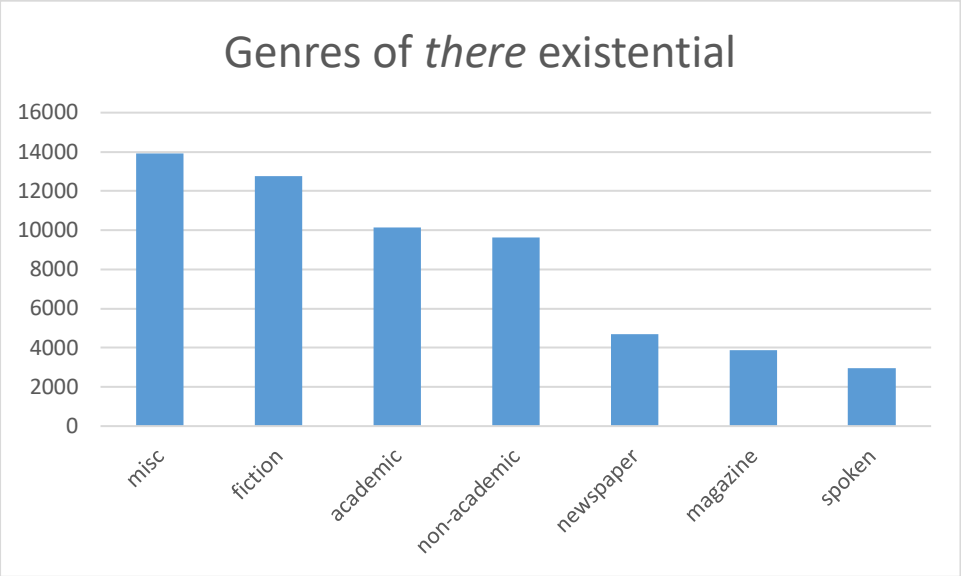

Figure 9. 1: Distribution of the genres of *there* existential (with noise)

See Appendix 3 for the full table

Fiction is the most popular genre in which the *there* existential construction appears, as in fiction, the writer needs to present the existence of the fictional referents and introduce the information about them that follows. The genre "fiction" contains a number of subcategories, such as fict_drama (9 instances), fict_poetry (23 instances), fict_prose (12730 instances). Given that the referents are mostly presented for the readers to visualise or imagine, *there* functions as a stage introducer, as argued by Bolinger (1977, p. 94). In the narrative, whenever there is a shift in focus during the depiction of the setting from the perspective of the focaliser through which the events or scenes are presented, the *there* existential construction can be used, and is in fact normally used, to redirect the reader's attention to specific elements and to influence how the story is perceived (Copy and Gournay, 2009, p. 16).

9.2. Locative inversion

9.2.1. Methodology

Due the complexity and uniqueness of the construction, even though the genre information is available in the Lancaster BNC site, there is no simple way to chart the genre-distribution of this construction. In order to obtain a full picture of genres, I resorted to Python. Like in the *there*-construction, the function [is_locative_inversion] is also filtered according to different parts of speech of the individual lexical items; the full representation is: [PREP + ART? + ADJ? + SUBST + VERB + ART? + ADJ? + SUBST], with the question mark [?] meaning that this specific element is optional.

The full steps are as follows:

```
Given a list of BNC files in the XML format:
xml_files: List = [...]
locative_inversion_count = Counter()
for xml_file in xml_files:
    annotated_sentences, class_code = parse_bnc_xml(xml_file)

    for sent in annotated_sentences:
    if is_pos_locative_inversion(sent):
    locative_inversion_count[class_code] += 1
```

The total number of instances retrieved in this way was 1335. As expected, there is inevitable noise as well in this set of data, with instances that are not in fact locative inversion, such as time and other adverbials. What I did was to check all the instances with verbs that appear with a low frequency, in order to make sure that they are actually genuine instances of locative inversion with a total number of around 920. The reliability of this method with Python was confirmed by the fact that this method retrieved the same set of verbs as in the earlier attempt (see Chapter 6).

9.2.2. Genres

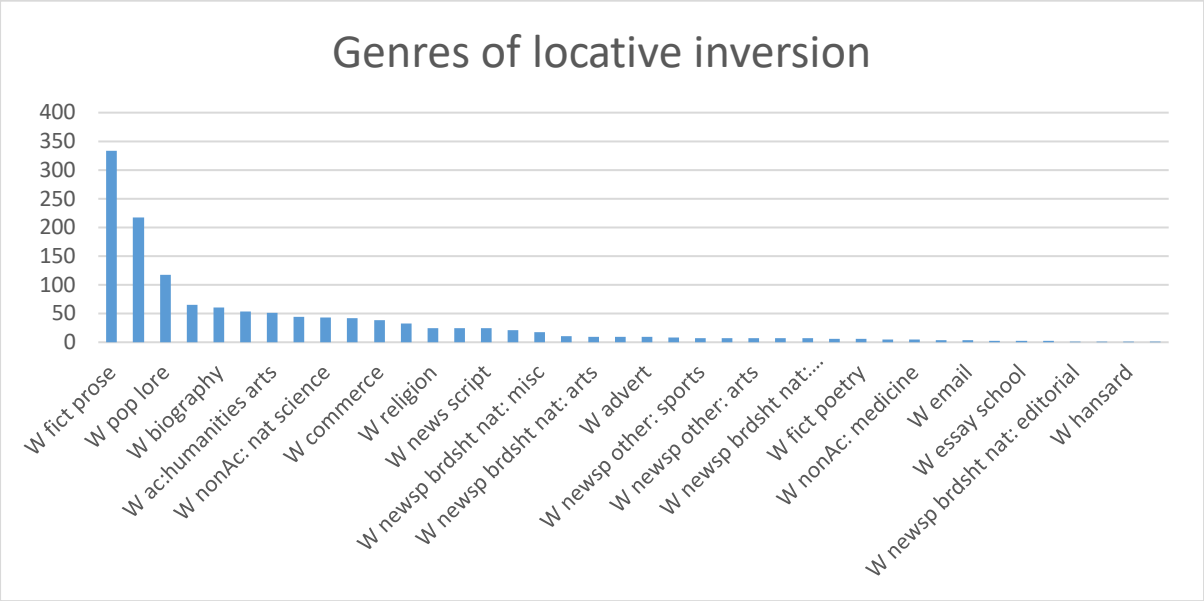

Figure 9. 2: Distribution of genres of locative inversion (with noise)

See Appendix 2 for the complete table.

Unsurprisingly, fiction is also the most popular genre with an absolute advantage for the locative inversion construction; more specifically, it is the fiction sub-category "prose", which includes novels and short stories, that has the highest proportion of locative inversion out of all the genres. Locative inversion is found to be often linked to visual descriptions within narratives as a narrative strategy (Bolinger, 1977; Copy & Gournay, 2009). Kreyer (2006, p. 16), adopting a cognitive perspective, characterises locative inversion as generating the "illusion of immediate perception" by simulating what is considered "natural perception" (Copy & Gournay, 2009, p. 13). In other words, locative inversion is seen as a linguistic tool that, when employed in narratives, creates a sense of immediacy and vividness, as if the events or scenes are being directly perceived, contributing to a more immersive and visually evocative storytelling experience. Recall also what was said about perspective in Section 8.2.1: when the speaker knows the scene is not visible to the listener, they may well adopt an allocentric perspective, in order to enable the listener to visualise what they cannot see. Writers know that their readers will not be able to see the scene, so will naturally exploit ways in which they can help the reader visualise important scenes. The

three constructions under investigation all involve a potential observer, and coerce a particular perspective on the reader.

Locative inversion is commonly used in a specific context—namely, the description of crime scenes in detective novels (Copy & Gournay, 2009, p. 14). In this context, authors frequently employ locative inversion to convey details about the locations where crimes have occurred. The use of locative inversion in such descriptions serve to enhance the atmospheric and evocative quality of the narrative, allowing readers to mentally visualise and engage with the crime scene more vividly. This suggests that locative inversion is a stylistic choice often employed for its effectiveness in creating a particular mood or setting within the crime genre of literature. One classic example is the death scene of a man in *A Rose for Emily* (locative inversions underlined):

> The violence of breaking down the door seemed to fill this room with pervading dust. A thin, acrid pall as of the tomb seemed to lie everywhere upon this room decked and furnished as for a bridal: upon the valance curtains of faded rose color, upon the rose-shaded lights, upon the dressing table, upon the delicate array of crystal and the man's toilet things backed with tarnished silver, silver so tarnished that the monogram was obscured. Among them lay a collar and tie, as if they had just been removed, which, lifted, left upon the surface a pale crescent in the dust. Upon a chair hung the suit, carefully folded; beneath it the two mute shoes and the discarded socks.
>
> The man himself lay in the bed.

["A Rose for Emily" by William Faulkner (1930)]

Notice that locative inversion appears when the information of the location has already been introduced into the ongoing discourse, and this location information at the point of the utterance of locative inversion has become shared knowledge to both hearers and speakers (see also Copy & Gournay, 2009). When the holistic picture is introduced with some other constructions, like the *there* existential (Copy & Gournay, 2009), the locative inversion construction is used to throw a spotlight onto a certain location and then unfold the details of the scenario by presenting more information about the postverbal NP which is also the subject of the sentence. The communicative purpose is thus achieved by using this specific non-canonical syntactic structure when authors want to bring the attention of the

readers, as if there was a camera, to a specific scene that is fictional which is otherwise would be difficult to visualise or picture.

More importantly, the reason why fiction is a much more common context for locative inversion is that locative inversion functions as a grammaticalised feature indicating a source of information that is not tied to any particular individual perspective but rather has a universal or trans-individual nature, applicable to a broad range of viewpoints. This linguistic structure is suggested to be employed in narrative discourse, particularly when there's a deliberate aim to eliminate or minimise the speaker's subjective viewpoint, allowing for a more neutral or universally applicable presentation of information (Copy & Gournay, 2009). Fiction is a genre that does not express the speakers' subjectivity and evaluation explicitly; instead, much of what is found in fiction is description of particular scenes, where the writer may influence the reader's response more subtly by their selection of what to describe. This is what explains the distribution of the three constructions over the various genres as we find in the corpus. Furthermore, this diversity of the availability of perspective also explains the very flexible perspective options involved in locative inversion.

9.3. Hybrid construction

9.3.1. Methodology and results

I also used Python for the hybrid construction, for the same reason that prompted me to use it to retrieve the data for locative inversion, i.e., the difficulty of extracting information about genre from the English Corpora. I also used Python to process the data, hoping to get insights into the distribution of this less-well described construction in the English language. Like in the locative inversion construction, the function [is_locative_inversion_there] is also filtered according to different parts of speech of the individual lexical items; the full representation is: [PREP + ART? + ADJ? + SUBST + (ADV|PRON) + VERB + ART? + ADJ? + SUBST], with the question mark [?] meaning that this specific element is optional. The steps are as follows:

Given a list of BNC files in the XML format:

xml_files: List = [...]

```
locative_inversion_there_count = Counter()
for xml_file in xml_files:
    annotated_sentences, class_code = parse_bnc_xml(xml_file)

    for sent in annotated_sentences:
    if is_pos_locative_inversion_there(sent):
    locative_inversion_there_count[class_code] += 1
```

9.3.2. Genres

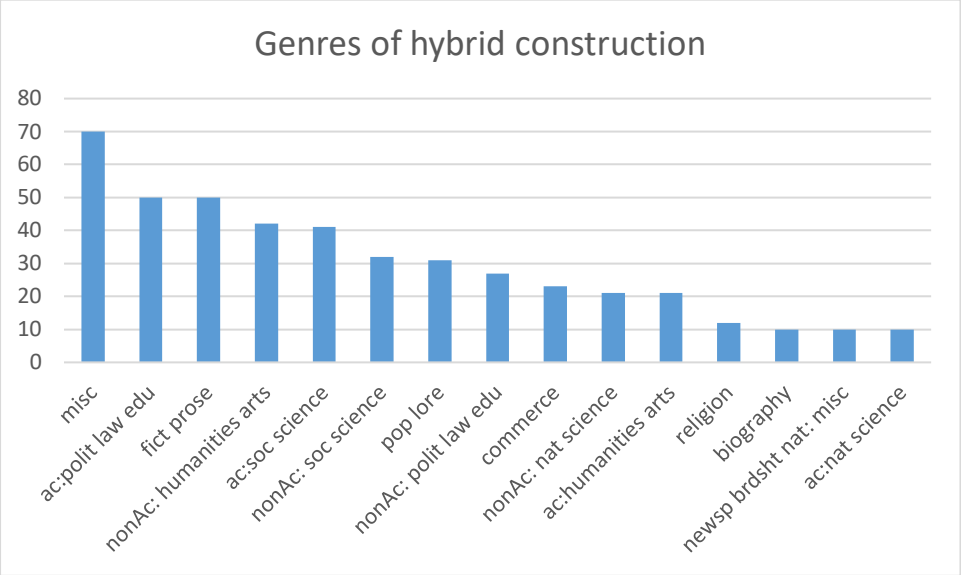

Figure 9. 3: Distribution of genres of hybrid construction (with noise) (genres with instances less than 10 are omitted)

From the result it can be seen that there is no specific genre that takes the leading position in using the hybrid construction in English, although it can be noted that its appearance is slightly more common in fiction than in other genres.

By the same method, the verbs are also obtained, which include, apart from *be*, the verbs *live, appear, remain, come, emerge, float, exist.* All of them are categorised by L&RH (1995, p. 281-282) as existence verbs or appearance verbs, with the exception of *float* which is a verb of manner of motion. See (1):

(1) On the corrugated pewter there floated two boats.

(BNC AEA 1549)

However, according to the analysis given for the open path with coercion in locative inversion, it can be easily recognised that the manner of the verb *float* in this context is backgrounded with the existence of the boats being foregrounded.

9.4. Conclusion

It can be seen that the inventories of verbs in the *there* existential and the hybrid construction share many similarities in that they both have most verbs denoting appearance, existence with a few denoting spatial configurations or highly rarely manner of motion. Locative inversion, on the other hand, has the most unexpected verbs covering a wide range of verb types, which, as we have seen, can be accounted for by windowing of attention theory and coercion. Finally, the hybrid construction has the least flexibility in terms of which verbs are selected, which is understandable as it has the most constraints, due to the high complexity of this construction. As for the genres, both *there* existential and locative inversion share a similar pattern with fiction being the most commonly found environment. The hybrid construction, again due to its complexity, has the unique feature that no genre takes a leading position in its distribution. To break them down more specifically, see the following subsections.

9.4.1. More specific accounts of the three constructions

There existential construction

Structure: Typically, the *there* existential construction follows the pattern "There + VP + [NP] [Location]".

- Example: There is a bike behind the tree.

Verbs: The primary verb used in this construction is "BE", but other verbs are found, such as *follow, appear, remain, arise, arrive, come, exist, stand, develop, lie, occur, lurk, linger, grow, emerge, stretch*. These verbs align with categories like existence, appearance, inherently directed motion, and spatial configuration.

Function: The *there* existential construction is used to present or introduce new referents or elements into the discourse, i.e., to signal the existence or presence of an entity. The construction shifts the reader's focus and guides them to a particular location or element that might be crucial for the narrative.

Genre: It is most frequently found in fiction, especially in genres that rely on vivid imagery and description, functioning as a 'stage introducer'. It aids in visualising characters, settings, or events.

Locative Inversion Construction

Structure: Locative inversion is characterised by placing the locative element at the beginning of the sentence, followed by the verb, with the subject-NP coming after the verb. This creates a reverse or "inverted" word order.

- Example: Behind the tree is a bike.

Verbs: The verb choice in locative inversion is more varied and can include unexpected verbs of different semantic classes. These verbs often cover a wide range of types, even including verbs that convey a sense of action or state in relation to a specific location, making locative inversion a relatively flexible and versatile construction that encourages creative usages of language.

Function: Locative inversion is typically used to present a visual scene or describe the spatial arrangement of elements, emphasising the location first, followed by the entity being described. It directs attention to specific locations and then unfolds additional information about the entities in that location, like a camera zooming in on a particular scene. This construction is often used when the location is already introduced and shared knowledge.

Genre: Like *there* existential, locative inversion is most commonly found in fiction, particularly in crime scenes or visual descriptions in detective novels. It generates an "illusion of immediate perception" and creates a vivid, immersive effect that enhances the reader's engagement.

Hybrid Construction

Structure: The hybrid construction merges elements of both the *there* existential and locative inversion constructions. It involves a locative phrase at the beginning, followed by "there", and the subject-NP appears later in the sentence.

- Example: Behind the tree there is a bike.

Verbs: The verbs found in the hybrid construction overlap with those in the *there* existential construction, including *be, live, appear, remain, come, emerge, float, exist*. These are primarily verbs of existence or appearance, with very few exceptions (such as *float*), which is a verb of manner of motion.

Function: It is less flexible than the other constructions, and it aims to reduce cognitive effort for the reader while introducing a scene that may not be immediately visualisable. It allows the writer/speaker to assist the reader/hearer in visualising the scene by providing both a locative introduction and an existential statement. The hybrid construction helps to ease the process of mentally mapping a location and its elements, making it useful when introducing new or unfamiliar entities in specific settings.

Genre: Unlike the other two constructions, the hybrid construction does not dominate in any particular genre, although it is slightly more frequent in fiction. This suggests that its usage is more context-dependent, being employed when it is necessary to help visualise a scene.

9.4.2. Key differences among the three constructions

Verb Selection:

There existential and hybrid constructions rely heavily on existence and appearance verbs, while locative inversion uses a broader and less predictable range of verbs.

There existential has a preference for BE and verbs indicating static states or motion towards existence, whereas locative inversion has greater flexibility, and the hybrid is more restrictive.

Focus: The *there* existential often introduces new information or characters, while locative inversion tends to provide detailed descriptions of already established locations. Hybrid construction provides a balance, introducing both the location and existence, making it easier for readers to process.

Narrative and Visualisation:

Both *there* existential and locative inversion are common in fiction, with locative inversion more closely associated with creating immersive, visual experiences.

There existential works to shift focus or introduce entities, while locative inversion zooms in on locations and scenes, adding vivid detail.

Hybrid construction, on the other hand, balances the need for clarity with the need for spatial information, often reducing cognitive load.

Summing up, these three constructions, while serving overlapping purposes of introducing entities and guiding focus, differ primarily in verb choice, focus, and syntactic complexity, with locative inversion being the most flexible and creative, the hybrid construction being the most constrained, and the *there* existential being the most formulaic but commonly used.

10.Conclusion and Suggestion for Further Research

10.1. Introduction

This project investigates the differences between three closely related constructions, namely, *there* existential, locative inversion, and the hybrid construction (with locative PP in the initial position followed by a *there* existential). These three constructions convey the same proposition, i.e., to indicate the existence/appearance of an entity that is denoted by the subject NP. This suggests that there must be specific reasons why speakers choose one construction over the others. The primary goal of this research is to uncover the reasons behind this interesting phenomenon. In order to achieve this goal, Chapter 2 of this thesis firstly looks into the literature focusing on different aspects regarding the three constructions, such as information structure, (e.g., information status of the postverbal NP), verbs, subjecthood, preverbal PP in locative inversion, as well as the issues with the hybrid construction. Finally, it points out that this project will use a constructionist view instead of a projectionist view to delve into the fundamental differences of these constructions.

Through this thorough review of literature, it firstly raises the research question:

(1) Given that the *there* existential and locative inversion seem to be enough to convey the existence/appearance sense in English, what is the function of the hybrid construction? What are its differences and similarities with the *there* existential and with the locative inversion construction? What is the motivation for language users to employ this unique construction?

To answer the first question, Chapter 4 presents a preliminary study of the nuances between locative inversion and the hybrid construction with data collected from BNC (the overall methodology is detailed in Chapter 3). By omitting *there* from the instances of the hybrid construction and by adding an additional *there* to the instances of locative inversion, the effects have shown that the reason why the hybrid construction is used by speakers can be formulated in terms of surveyability, i.e., when the location in the PP is not surveyable, *there* has to be inserted to help the hearer to locate the place. Thus, the hybrid construction

is not just a mechanistic outcome of the sum of the two constructions *there* existential and locative inversion.

From the literature it is also clear that the verbs in locative inversion demonstrate unique characteristics in that there is still no widely acceptable explanation which can predict which verbs are felicitous and which are not, although many different accounts have been proposed. There appears to be a lot of scope for the individual speaker/writer here to use interesting novel and infrequent verbs. Therefore, a second research question has been raised:

(2) What are the reasons that make the variously novel verbs acceptable in locative inversion if many researchers have claimed that only certain verbs can appear in this construction?

The problem that is highlighted in the appearance of novel verbs in locative inversion boils down to the single issue of the mismatch between the lexical item and its syntactic environment, which is called coercion. The concept of coercion has been studied by linguists in different sub-fields in linguistics from different angles; various accounts have been proposed to explain this pervasive phenomenon which is not only found in formal writing but also in everyday conversation. Chapter 5 engages with the current literature covering this topic, encompassing the types of coercion, theoretical accounts for coercion and how another phenomenon—metonymy can be used to explain this process from a cognitive perspective. Finally, it points out how coercion can be used in assisting our understanding of the mismatch between verbs and constructions in this project.

In order to answer question (2), this project investigates the BNC further in order to retrieve more instances of locative inversion. A detailed methodology is presented in Chapter 3. From the BNC, I obtained a database of verbs sufficiently large to investigate what nuance of the core meanings of the verb was coerced in locative inversion, and the results are discussed in Chapter 6. They are compared with those of Levin & Rappaport Hovav (1995) and classified according to Levin & Rappaport Hovav's categories (as far as this was possible). A number of new verbs were found in locative inversion in the BNC which did not appear in L&RH's list (see Appendix 4 for L&RH's full list). The information structure and

discourse functions of the construction were also revisited in this chapter, and compared to what has been found in the literature, concluding and reaffirming that the primary function of this construction is to present the existence or appearance of an entity (or entities) in a place that is already in the mental space of the hearers/readers.

From the first 6 chapters it became clear that the verbs in locative inversion show that speakers/writers have a great deal of flexibility in what types of verbs they can select. Accordingly, the focus of this project in the subsequent chapters moves to explaining the appearance of novel verbs in locative inversion, although verbs in another two constructions are also explored, as well as the genres the three constructions appear in (see Chapter 9). Chapter 7 explores the possible frameworks for answering the research questions about the verbs. Firstly, it introduces a formal approach of Construction Grammar—Sign-based Construction Grammar, which treats languages as generative signs that can build up from smaller signs to form larger signs, representing different levels of linguistic units. This fundamentally different approach within the CxG community provides important insights into solving the coercion phenomenon by pointing out the essential component of Frame in shaping the meaning of verbs in larger constructions, such as argument structures. Starting from here, this thesis firstly introduces the theory of Frame Semantics to look into how the concept of frame helps in developing the theory of Construction Grammar, then further explores different approaches that are more usage-based and function-oriented, such as CxG by Goldberg (1995, 2006, 2019) and Talmy (2000a/b), acknowledging that the syntactic structures as constructions have their own meanings and functions. This part provides an extensive introduction of CxG and how verbs can interact with constructions dynamically through exploiting the relationship between them. Finally, this chapter compares various approaches such as Unification CxG (SBCG), Cognitive CxG (Goldberg) and Talmy's Cognitive Semantics, arguing that the latter two, which are functional and usage-based, are more suitable for this investigation, as it aims to understand the functions of each of the three constructions in real-life communication.

This means that, from the many proposals as to the syntactic and pragmatic properties of the three constructions in the literature, I adopt these functional and usage-based frameworks, the reason for which is elaborated in Chapter 8. Chapter 8 explores various concepts and theories that can jointly contribute to the felicitousness of the verbs in

locative inversion from a more cognitive point of view. It first introduces the event structure theory by Talmy (1991; 2000b) to decompose the structure of a framing event into main event and co-event, which could be further divided into smaller components. This theory lays the theoretical groundwork for how coercion in locative inversion works.

Following the framing event, another key concept is perspective. This thesis discusses different aspects of perspective, such as the reason why it is important in human cognition in everyday life, and how it works in terms of language comprehension and production. The problem of accounting for what makes verbs felicitous in locative inversion is finally solved by adopting Talmy's theory of Windowing of Attention. This theory proposes that there are three paths to take into account when we encounter the motion event frame, with one entity as the Figure (or trajector) moving along a Path against the Ground (or landmark). Of these three paths, the most important one for this investigation is the fictive path, as most of the paths encoded in locative inversion turn out to belong to this category. The many different types of fictive paths are elaborated in this chapter, with the data of locative inversion I obtained from the BNC, verifying that they indeed represent fictive paths that convey no factive motion. The felicitousness of outlier verbs that do not belong to the fictive path category can be accounted for by the operation of coercion.

At the end of the thesis in Chapter 9, another two questions are answered:

(3) What are the differences and similarities among these three constructions in terms of the usages of verbs?

(4) What is the impact of register and genre on the frequencies of these three constructions?

To answer these questions, both Python and the method provided in Chapter 3 are used. The methods are detailed in this chapter with step-by-step instructions. Most interestingly, I found that for locative inversion, fiction is the most common genre that employs this construction as a narrative strategy to help the readers to locate the intended scene. Additionally, allocentric perspective is also commonly used in order for the writer to effectively convey a more vivid and immersive experience for the readers of their stories, which in fact conforms to the *least collaborative effort* principle (Section 8.2.1). The hybrid

construction with its less common structure shows some unique features both in terms of its verbs and its distribution over genres.

10.2. How to solve the verb problem

The discourse function of locative inversion is to present the existence, appearance or some change of state of an entity. In locative inversion, most verbs represent the atelic existential meaning, such as the fictive paths that are discussed above. Verbs can be selected in locative inversion as long as they can combine with the PP to form a fictive path. However, there are also verbs that do not represent the atelic existential meaning, like those involving an open path. As I have illustrated in detail, these verbs can become felicitous owing to the coercion mechanism, because the construction as a whole contributes a meaning of its own that can override the interpretation or representation of the core semantics of the verb, and hence coerce telic/activity verbs into this construction.

This proposal also fits with the path elaborations argument (see Section 8.3.2.1) in that the windowed portions of the path are only partial stages of the path component in the motion event frame, but allow the path (even fictive) to be reconstructed in its entirety. Even though the paths in most cases are only partially expressed or windowed, this does not affect the hearers or readers' comprehension of the motion frame event, because they can reconstruct the path given either the wider context, or through conventional knowledge.

This thesis demonstrates that the functional and usage-based approach can work well in explaining the appearance of novel verbs in locative inversion, and at the same time, it aligns with the discourse function of this construction, which then jointly determine the felicitousness of the use of many semantic classes of verbs found in the construction, both as reported in the literature and in terms of data retrieved from the BNC, which contained novel verbs, including verbs not belonging to the semantic classes reported in the literature. By using the windowing of attention theory proposed by Talmy (2000a), the verbs are found to form different paths with the sentence-initial PP to indicate different types of motion event. Most verbs indicate fictive paths with fictive motion, which means they do not convey any factive movement of the entity denoted by the postverbal NP, representing only

the state of existence of the NP. When the verbs indicate factive movement as in open paths, the state of existence is being foregrounded and the manner of motion is backgrounded.

In both cases, coercion plays an important part in that in the fictive paths, the verbs are coerced into having extra semantics in addition to their core meanings, in terms of expressing directionality; in the case of open paths, the verbs are coerced to only indicate the existence of the entity while the manner of the motion is backgrounded. This illustrates the dynamic relationship between syntactic constructions and the verbs they host, in that the higher-level constructions have the power to change or manipulate the semantics of the lower-level constructions-verbs in order to facilitate more vivid and creative use of language.

Compared to other genres, fiction seems to be the most common context that uses *there* existential and locative inversion constructions. This might be surprising as, for example, *there* existentials in particular are frequently found in everyday use of language, and not only in fiction. What seems to explain their high frequency in fiction as well as in other genres is that the speaker/writer tends to use *there* existential to set a new focus, directing the attention of the reader/hearer to a specific location. The use of locative inversion, on the other hand, allows the speaker/writer to locate the place first, and then unfold the scene to add more details to the scenario. In most genres, in fiction as well as in other genres, when introducing something in a specific location that is not visually surveyable, the speaker/writer is more likely to use the hybrid construction with *there* in order to reduce the cognitive effort of the hearer/reader, assisting them to visualise the intended scene.

Finally, another aspect to note is that the use of a corpus, especially with the assistance of coding such as Python, is proven to be very helpful in exploring some intricate details of language from a user-based perspective.

10.3. Suggestions for further research

Due to the limitations of the scope of this project, some potentially interesting aspects regarding these three constructions are not covered. They include the information status of the different parts of the sentence. Given the great convenience and reliability of the coding approach offered by platforms such as Python, further research could focus on the information status of the content of the PP and the subject-NP in locative inversion compared to the other two constructions, using methods such as Python and advanced corpora.

Due to the reasons specified in Chapter 3 regarding the methodology, other methods, such as questionnaires, were not employed. Therefore, future studies could consider a mixed method approach, combining corpora and questionnaires, to reveal more interesting aspects of language use.

Appendix 1. Infrequent Verbs other than *Be* Verbs Found in Locative Inversion from BNC

Note: verbs such as *rise, sit, stand, come, lie, run,* all occur multiple time, here only list a few of instances of each of these verbs.

No.	Filename	Your query "<s>_{prep} (_{art})* ((_{adv})* _{a})* (_{n})+ _{verb} (_{art})* ((_{adv})* _{a})* (_{n})+" returned 8009 hits in 2221 different texts (98,313,429 words [4,048 texts]; frequency: 81.46 instances per million words) [5.691 seconds]
22	A08 1836	Through the glass **shone** God's sun, setting the colours alight: blue, green, yellow, red.
54	A0R 2965	In the shady spots **flourished** hostas, and in the full sun, nasturtiums, clarkias, stocks and geraniums bloomed.
251	A64 1209	Through Samara **passed** the chief railway lines from Siberia and Central Asia, bringing in diseases of all kinds from the east.
292	A6C 1582	Across an outdoor cinema screen **flaps** a heavy unidentified bird
335	A6T 839	From the fissure **poured** lava, blood-red lava glowing like the fires of hell in the night.

377	A7D 1931	At 5 Woolley Street **live** Richard and Pamela Nadin who deal in unusual and rather strong pieces, often with a touch of the Gothicks.
508	ABE 461	From that moral swamp **emerged** the Creature with the Beard and the Big Cigar.
546	ABJ 3896	Into Japanese hands **fell** Rockefeller Centre in New York, Firestone in Ohio and Columbia Pictures in Hollywood.
587	AC5 2188	Inside each brown case **waited** the empty skull-face, folded flat, with a flappy rubber nose and hard cylindrical snout, though they frightened Dot less now than they used to.
589	AC5 2402	Through the snow **strode** a visitor.
606	ACA 1078	Round one grave **grew** a bed of primroses … ‘
630	ACS 32	On the riverside **rose** the shapes of a possible future: a ‘Dome of Discovery’ with a diameter of 365 feet to keep the rain, which was very plentiful that summer, off the exhibits.
643	ACW 68	Beyond the perimeter wall **ran** a vein of the Bradford Beck, its filthy waters gurgling below ground before breaking free for some distance to pass Old Ashfield's wooded hillside.
672	ADA 1934	Above the little child **hovered** a large angel, luminously white, with wings made to look like burnished gold.

715	AE8 477	On one wall **hung** a large framed text in black-letter Gothic.
848	AJY 1009	Along one wall **stretch** Maurice's medals: medals for marathons, for half-marathons, for fell runs and flat runs, medals from Split, New York and Melbourne.
905	AKS 67	On the screen **flicker** black-and-white images.
906	AKS 68	From the speakers **drones** the voice of Max Von Sydow.
1035	AMK 241	Upon these negotiations **hinges** the future of international trade.
1093	AN9 472	At the other end **emerge** still useful uranium, for potential reuse in reactors, plutonium, which, according to its quality, can be used for either bombs or as fuel in a fast breeder reactor (see Chapter Three); and a cocktail of liquid waste products.
1248	APT 369	On the walls **hang** a series of paintings by Christian Dittman, 1669, and several works from the important Rudolfine court circle, including a triptych by Hans von Aachen.
1566	B0R 970	Beyond the two standing figures **flows** the River Axe.
1887	B7M 992	Between stacks **weave** ramps and runways fronted by columns of video-tape recorders and audio cassette players, 30 of each.

1966	BMX 2044	In the centre **loomed** a squat Tower of brown stone up which the shade steadily crept as the shadows on the ground reached out into nothing and were lost.
2013	BNH 1004	From that mistaken belief **springs** the evil of social engineering, which, at its worst, results in bureaucracy seeking to manipulate entire populations.
2039	BNU 805	Outside the open door **stretched** the immense blackness of night.
2054	BP0 3052	On the mast **flew** the red lion of Lusignan, and at the helm, they knew, was Mick Crackbene.
2131	C8D 1853	From a nearby room **filtered** strains of Baroque music.
2313	CAD 613	At the next table **sit** two fine specimens of Mancunian youth.
2546	CCB 887	Outside the village **rises** the noble hill of Lewesdon, neighbouring peak to Pilsdon Pen, beloved of Wordsworth when he lived at Racedown and first began to dedicate his life to poetry.
2841	CFH 351	Onto the smoky dais **loomed** Dan Jones, Amnesty's head of campaigns, who unveiled an enormous poster courtesy of the City

		and Tower Hamlets Group calling for an immediate end to custodial violence in India.
2887	CG2 223	Around this charming place **lingers** a vague air of 'the land that time forgot', an atmosphere which couldn't be further from nearby birchens, with its polished horrors and hordes.
2949	CH1 3309	On screen **bounced** Kylie Minogue and Jason Donovan.
3082	CJJ 2118	Between catwalks **loomed** the stooped carapaces of the Titans.
3163	CKN 1001	Behind the new anti-Modernism **flits** the shadow of that old anti-Modernist D. H. Lawrence.
3240	CLD 1456	Across the square **ran** the open sewer of the village.
3331	CM4 2645	Around the hulk **clung** the waxen coils of the hydra like some giant wreath of spilled intestines.
3378	CME 1009	Among the rocks **gleamed** multi-coloured stones; pink and white, veined with black and green, and some running with rust.

3415	CN1 1128	In the woods **lurk** beasts that walk like men.
3810	ECG 949	Above the col **jutted** the imposing obelisk of Ama Dablam.
3811	ECG 1099	Across the canyon **rose** illimani's triple summit, glinting in the dawn light and far grander than in our tiny photo, while to the right the untold delights of the Cordillera Real began to unfold.
3814	ECH 742	To the south **rose** a fine assortment of small, unclimbed peaks.
3816	ECH 987	Through the door **hurries** Gordon Stainforth, bespectacled and preoccupied.
3946	EE5 1023	In the sky **shines** the star which reminds him of his childhood.
4243	F9H 686	Through the trees **shimmered** the 150-acre tarn.

4244	F9H 706	Behind a grey stone wall **lay** a little pool.
4245	F9H 1022	In every bush **fluttered** tired passerines: wheat ears, chiffchaffs, white throats, whinchats, willow warblers and linnets.
4246	F9H 1285	On a stone wall **perched** a black bird with a white bib: it was a ring ouzel, a bird of mountain and moor land.
4248	F9H 1624	Along the ride edges **grow** cowslip, cuckoo flower, greater stitchwort, wood spurge, wood violet, bugle, yellow archangel and wild strawberry.
4249	F9H 1892	Beneath the cliff **nestled** primroses, ragged robin, pink thrift, sea camp ion, birds foot trefoil, yellow pimpernel, milkwort.
4586	FNU 120	Outside the window **sounded** the thin blast of a whistle as a train prepared to leave the platform.
4596	FP0 2667	Inside the business school **chimed** the melody that meant the change of lessons.

4601	FP3 327	Beyond that sea **rises** a mountain range and beyond that stretches a vast desert where the sun twists round and beats down so hot it would dry out an eagle's wings and turn them to dust if he flew too long.
4605	FP7 2611	From the lip **trailed** two white mandarin moustaches like pulpy tubers.
4650	FR6 1114	In front **rode** Mr Rochester on his black horse, and with him rode a beautiful lady, her black curls streaming in the wind.
4865	G0D 497	Behind the cadets **marched** three hundred uniformed women soldiers of the army.
5091	G3E 201	In the front seat **rested** the body of a girl.
5115	G3P 1538	Under the creeper bindings **twitched** stumps of flightless wings.
5492	GUM 2098	In the wings **waited** the proud husbands, boyfriends and parents.

5493	GUM 2886	Over a radiator **hung** three pairs of Denise's tights, long dry.
5495	GUM 3106	Through the frosted window **blazed** the cold light of winter morning; sidelight, the most harsh.
5575	GVL 1244	Through the squalor **threaded** a well-guarded street.
5816	H85 2200	Through the open window **floated** the sound of traffic, and then above this the boom of Big Ben sounding the hour.
5830	H8A 609	Outside the door **hovered** Alfred, detailed by Auguste to serve drinks when royalty had arrived.
5853	H8R 1616	Over the stone **rushes** the wind able to mingle with nothing, like the hearing of the blind stone itself.
5906	H9C 1793	From the pole **hung** four corpses; three of the great, black mastiffs and, in between them, his neck broken and twisted, eyes protruding, the body of Gyrth, their keeper.
5966	HA2 1027	In the chair **crouched** the figure of Vanessa Dersingham, stitching a tapestry.

6112	HGN 624	From the kitchen **wafts** the fragrance of fresh-baked minor miracles.
6125	HGS 2651	On the wall **hung** beautiful diagrams in the manner of Leonardo da Vinci of the musculature of limbs and the action of levers.
6178	HHC 750	Behind the road-builders **trundled** wagons laden with graded stone to be pounded and pulverised into place to make a road which was intended to last for centuries to come.
6810	HTJ 775	On the left **stretched** a huge park where the waters of a lake shone.
7007	HWN 1521	Around the campfire **crouched** three red-bearded highlanders, clad in considerable quantities of musty-looking tartan and armed to the yellow teeth.
7179	J13 3204	Across the high viaduct **rumbles** a late train.
7192	J13 713	Around the dancers **swills** a crowd of onlookers, some watching, some drifting into corners.
7950	KAS 217	At the front **walked** the funeral director Tophatted and cane in his hand.

Appendix 2. The Distribution of the Genres of the Locative Inversion (with inevitable noise)

Note: the total number of instances of locative inversion is around 1335.

Genre	Number
W fict prose	334
W misc	217
W pop lore	117
W nonAc: humanities arts	65
W biography	60
W ac:polit law edu	53
W ac:humanities arts	51
W nonAc: soc science	44
W nonAc: nat science	43
W nonAc: polit law edu	42
W commerce	38

W ac:soc science	33
W religion	25
W newsp other: report	25
W news script	24
W ac:nat science	21
W newsp brdsht nat: misc	18
W ac:medicine	11
W newsp brdsht nat: arts	10
W ac:tech engin	10
W advert	9
W newsp other: social	8
W newsp other: sports	7
W nonAc: tech engin	7
W newsp other: arts	7
W newsp brdsht nat: report	7

W newsp brdsht nat: commerce	7
W newsp tabloid	6
W fict poetry	6
W instructional	5
W nonAc: medicine	5
W institut doc	4
W email	4
W newsp brdsht nat: science	3
W essay school	3
W newsp other: commerce	2
W newsp brdsht nat: editorial	1
W newsp brdsht nat: social	1
W hansard	1
W newsp brdsht nat: sports	1

Appendix 3. The Distribution of *There* Existential

<s>there _{VERB}

There are 57984 instances of *there* existential in BNC, verbs found in this construction include:

Seem, follow, appear, remain, Arise, arrive, become, continue, come, exist, stand, develop, lie, occur, lurk, linger, happen, grow, emerge, crawl.

Fiction	12762
Misc	13900
Academic	10141
Non-academic	9636
Newspaper	4702
Magazine	3883
Spoken	2967

Appendix 4. Intransitive verbs that are found in locative inversion by Levin & Rappaport Hovav **(1995: 285-286)**

Adhere, alight, amble, appear, apply, arise, arrive, ascend, await, beat, begin, behold, belch, belong, blaze, bloom, blossom, bob, boom, bound, break, bubble, burn, burst, cascade, chatter, climb, cling, come, commence, crawl, creep, crouch, curl, dance, dangle, dash, dawn, decay, depend, derive, descend, die, dilute, doze, drain, drift, drip, droop, drop, dwell, echo, emanate, emerge, ensue, enter, erupt, evolve, exist, extend, exude, fall, out, fan, fester, figure, flap, flash, flee, flicker, float, flood, flop, flourish, flow, flower, flutter, fly, follow, gallop, gather, get, gleam, glimmer, glisten, glitter, gloom, go, grow, hang, happen, hatch, head, heave, hide, highlight, hobble, hop, hover, hulk, hurry, hurtle, idle, issue, jerk, jump, kneel, labour, laze, lean, lie, linger, live, look, loom, lounge, lurk, march, mill, mingle, mount, move, nestle, occur, open, operate, originate, parachute, parade, pass, peep, peer, perch, persist, plop, pop, pour, prance, preside, project, protrude, puff, pull, purl, pursue, radiate, ramble, range, rattle, read, reappear, rear, recline, reign, remain, repose, reside, rest, revolve, ride, ring, ripple, rise, roil, roll, romp, rotate, rover, rumble, run, rush, sail, scamper, scintillate, scurry, scuttle, seep, seethe, sheer, shelter, shine, shiver, shoot, show, shriek, shuffle, sing, sit, sleep, slide, slip, slope, slouch, soar, sound, sparkle, speak, speed, spill, splash, sprawl, spread, spring, sprout, squat, stagger, stand, stare, steal, stem, step, stick out, straddle, stray, stream, stretch, stride, stroll, strut, succeed, surface, sweep, swim, swing, swirl, swoop, thrive, throne, throng, tick, toil, tower, trail, trickle, trot, trudge, tumble, twinkle, twist, unroll, waft, wait, walk, waltz, war, wave, well, wheel, whirl, work, yawn.

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