Getting at the Passive:
Functions of Passive-Types in English

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Author's Declaration

I declare that this thesis is my own work carried out under normal terms of supervision.

Abstract

To describe a transitive event, the English language allows a choice of two Voices. The canonical form is the active-voice, and the alternative is the passive-voice, which offers its own semantic and syntactic functions. The passive-voice can also be divided into two further variants: be-passives and get-passives. Though theories are numerous, literature from both Linguistics and Psychology falls short in describing the functions and uses of these two forms.

In this thesis, I present a rethink of passive syntactic representation, simplifying its description under a single structural unit. The proposed pvP theory allows for the variation between the two passive-types, while accounting for the features that are shared by all passive forms.

I also present several experiments that explore the differing semantics and syntax of be-passives and get-passives. The results of these studies show a clear preference for the be-passive over the get-passive, especially in self-reporting and tasks that allow self-correction. However, it is also clear that, though there is overlap between them, each form serves its own purposes and exhibits preference for use in specific contexts.

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Chapter 1: Introduction

That which can be destroyed by the truth, should be.
P.C. Hodgell

I'd like to be known as the person who saw things
from a different point of view to others.
Shigeru Miyamoto

A transitive event is one involving two participants: an Agent, the 'doer' of the action, and a Patient, the person or thing that 'undergoes' the action. In English such events can be described in Active-voice or Passive-voice. While active is the canonical form, the passive serves specific functions, such as placing focus on the Patient, or forcing the Agent into the background (Keenan & Dryer, 2006).

It is notable that the passive is further divided, providing the options of be-passive and get-passive. Some have dismissed these two versions as equivalent, both syntactically (Chomsky, 1981) and semantically (Weiner & Labov, 1998). However, literature from the fields of Linguistics and Psychology points to these two passive-types having their own distinct uses, structures, and connotations. It is these distinct attributes that I aim to test and capture through the present work. I will show that the current literature is inadequate for providing an understanding of get-passive use.

1.0 Thesis Summary

The following provides a brief overview of the work contained in this thesis. Full discussion of each topic is provided in the respective Chapters. I begin with a detailed literature review, before laying out my motivations and aims. (It should be noted that examples and figures are numbered within chapters).

Chapter 2 examines the existing literature on topics surrounding the passive-voice, and specifically the get-passive, in English. I draw on both Linguistics and Psychology to provide a broad and detailed overview of current theories and data relating to this topic. I cover Generative Grammar, semantics, corpus data, and experimental studies. I demonstrate that, despite the apparent breadth of literature, there is very little agreement as regards passive syntax, semantics, or usage.

C**hapter 3** provides the factors motivating this work, as well as the aims of this thesis. I will highlight the shortcoming of the current literature, and how I hope to address them.

The remainder of the thesis is divided into four Sections, each dealing with specific aspects of the passive or get-passive. The first Section is theoretical, addressing the linguistic aspects of the passive, while the other three Sections focus on empirical research, each addressing aspects of passive semantics and usage.

Section I - Passive Theory

Chapter 4 presents a novel theory of the passive in English. It is described from a Generative Grammar standpoint, with discussion of its implications for both syntax and semantics. The proposed theory seeks to unite the various passive constructions via a single constituent, simplifying the interpretation and description of passive syntactic behaviour and semantic flexibility. This approach provides a far more parsimonious account than any theory currently given in the literature.

Section II - Passive-types and By-phrases

Each Chapter in this Section experimentally tests the relationship between passive-types (*be* and *get*) and the inclusion of an agentive by-phrase. As will been seen from Chapter 2, there is disagreement both within theoretical and empirical accounts regarding the interaction of these two factors.

Chapter 5 uses an acceptability rating paradigm, replicating and improving a study by Budwig (1990), in which participants rate passive sentences and can suggest alternatives. This will establish general preference regarding passive-type and by-phrase inclusion. **Chapter 6** employs a text change blindness paradigm to take a more implicit measure of these factors. It also considers the degree of semantic equivalence between the two passive-types. **Chapter 7** reports a priming paradigm to further probe the overlap between the two forms and their interaction with by-phrase inclusion.

Section III - Properties of the Patient

To address the unresolved discussions in theoretical literature, this Section considers ways in which the Patient is perceived in each passive form.

Chapter 8 explores how both voice variations and event semantics can influence the perception of Patient responsibility using a rating paradigm. **Chapter 9** goes on to examine how information status and Patient focus affect the use of each passive-type and by-phrase inclusion. This is achieved via a paraphrasing task.

Section IV - Passive-type and Patient Intention

The experiments in this Section test how the level of intention on the part of the Patient interacts with passive-type.

Chapter 10 tests materials for the subsequent experiments. **Chapter 11** details a fill-in-the-blanks task investigating this feature across language varieties. **Chapter 12** reports a reading eye-tracking study comparing the processing of the two passive-types with three levels of Patient intention.

Finally, **Chapter 13** concludes with a summary of the findings, final remarks, and future directions.

Chapter 2: Literature Review

2.0 Introduction

In this Chapter I will examine the existing literature on the passive in general, as well as on the types of passive available in English. In doing so, I aim to provide a background to my subsequent work, and to situate it within the fields of Linguistics and, primarily, Psychology. I also hope to use this literature review to inform specific designs and directions in my thesis, as well as to justify the need and relevance of this work.

I will begin by considering literature from a theoretical standpoint. The majority of this literature comes from areas within Linguistics and Psycholinguistics. Syntax is a significant factor when considering passivization. I will review what has been written in regards to syntax, firstly on the passive in general, then on the get-passive specifically.

Following this I will look at approaches to passive semantics and pragmatics, again beginning with the function of the passive-voice in general, then considering the various specific features of the get-passive that have been suggested.

After these, I will move further into practical research and Psychology. I will review corpus studies looking at various aspects of the passive-voice versus the active-voice and the distribution of be-passives and get-passives. Finally, I will review the small amount of experimental papers that investigate the English passive.

2.1 Syntax: Passive-Voice

Recent descriptions of the passive construction have been shaped significantly by Chomsky's (1981) analysis in which he views passives as being syntactic derivations of the canonical active-voice. For Chomsky, the passive is generated through a series of transformations that are triggered by Case and thematic-role (theta-role) requirements. In an active-voice construction (1), a transitive verb such as *attack* requires two arguments: a subject and an object complement. The subject is theta-marked as the Agent (the 'doer') of the action, and receives Nominative Case; while the object is theta-marked as Patient (the 'undergoer' of the action), and receives Accusative Case.

1) *A squirrel attacked Todd*
2) *Todd was attacked by a squirrel*

In a passive construction (2), Chomsky's approach sees the passive auxiliary *be* inserted, and the main verb (attack) is said to display so-called 'passive morphology'. This results in the suppression of the Agent theta-role, as well as the ability of the verb to assign Case to its object complement. This suppression means that when the object is generated in the syntactic structure, it is able to receive the thematic-role of Patient, but is unable to fulfil its requirement to also have Case. In order to be assigned a Case, the object must move upwards through the syntactic structure; it is merged in subject position, where nominative Case is applied. Importantly, the suppression of the Agent theta-role ensures that the moved object does not violate the theta-criterion by having two roles. The underlying structure of the be-passive, as assumed in the above discussion, is given in Figure (1).

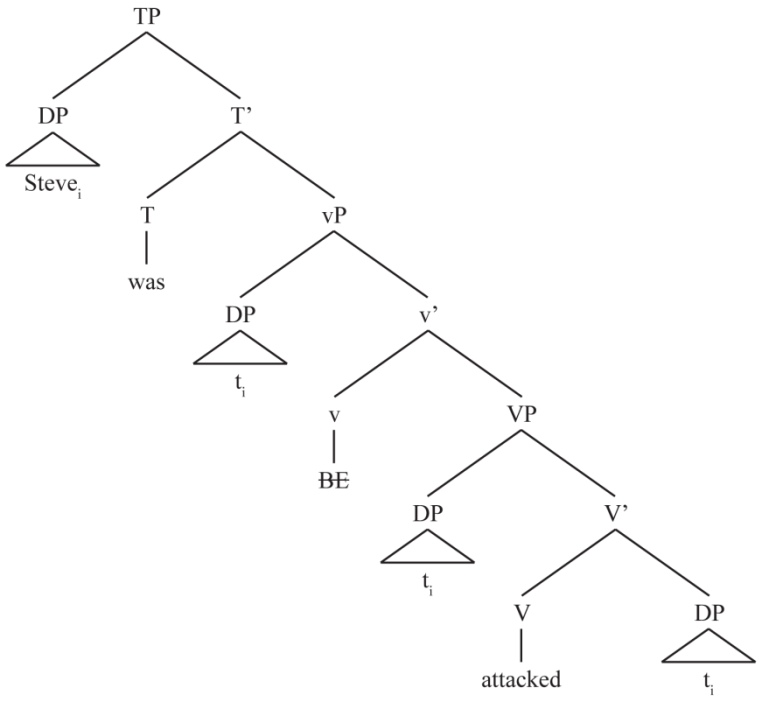


Figure (1) Steve was attacked

Here, TP stands for 'Tense Phrase', equivalent to the 'Inflection Phrase' of earlier generative models; DP is a 'Determiner Phrase', usually consisting of a determiner plus a Noun Phrase (NP); t is a trace left by a constituent that has moved; VP is a 'Verb Phrase'; vP is a 'light Verb Phrase', which is semantically impoverished and therefore is dependent on combination with some additional phrase to produce a meaning.

The Agent of the action, who appears as the sentential subject in the active, is demoted to appear only in an optional adjunct. This is referred to as the *by-phrase*, or sometimes the *agentive by-phrase* to distinguish it from other by-initial adjuncts such as locatives.

This initial conception of the passive-voice is explored further by Jaeggli (1986). In support of the idea that the subject position in the passive does not receive a theta-role, Jaeggli notes that it is possible for expletives to appear in subject position in passive constructions, such as in (3).

3) *It was believed that John had left*

Expletives are ungrammatical if they are used in positions that are necessarily assigned a theta-role, therefore the grammaticality of (3) is taken as evidence that the subject position does not receive one.

Jaeggli conceptualises the theta-role and Case suppressions mentioned by Chomsky as "absorption", further specifying that it is the passive bound morpheme *-en* that absorbs

these features; specifically defining "absorption" as "assignment to a bound morpheme". In practice, this 'passive bound morpheme', or participle suffix, is usually realised as *-ed*, though in the literature it is consistently referred to as *-en*. Jaeggli notes that the non-assignment of Case to the object does not hold cross-linguistically, citing languages such as Spanish and Italian as counter-examples, and concluding that Case in passive constructions requires language-specific options.

With regard to the optional by-phrase in the passive, Jaeggli highlights that the noun-phrase within is interpreted as having whatever thematic-role the passivized verb standardly assigns to its external argument; that is, the determiner-phrase (DP) in the by-phrase is not inevitably an Agent, but may also be a Source, Goal, Experiencer, etc. The theta-role reaches the DP within the by-phrase via "transmission": once the bound morpheme *-en* absorbs the theta-role from the verb, it 'transmits' it to the prepositional-phrase, which in turn assigns it to the DP.

Collins (2005) presents a departure from this generally accepted approach initiated by Chomsky. Rather than relying on transformations, Collins proposes an analysis that sees both active-voice and passive-voice as having the same underlying structure with regards to external argument structure. He asserts that the passive participle suffix (the bound morpheme *-en* in Jaeggli) does not differ from the past participle suffix, citing their identical morphology in English. Furthermore, neither suffix results in suppression or absorption of theta-roles or Case.

To achieve a situation whereby the external argument merges in the same location in both active and passive constructions, Collins suggests that the passive involves "smuggling". This entails the movement of a constituent 'x', held within a larger constituent 'y', across a potential barrier to x. He introduces a Part-Phrase (PartP), containing the participle and direct object; all of which, in the passive, raises to a second new phrase, Voice-Phrase (VoiceP), which has *by* as its head. When no by-phrase is included, VoiceP remains empty, as in Figure (2).

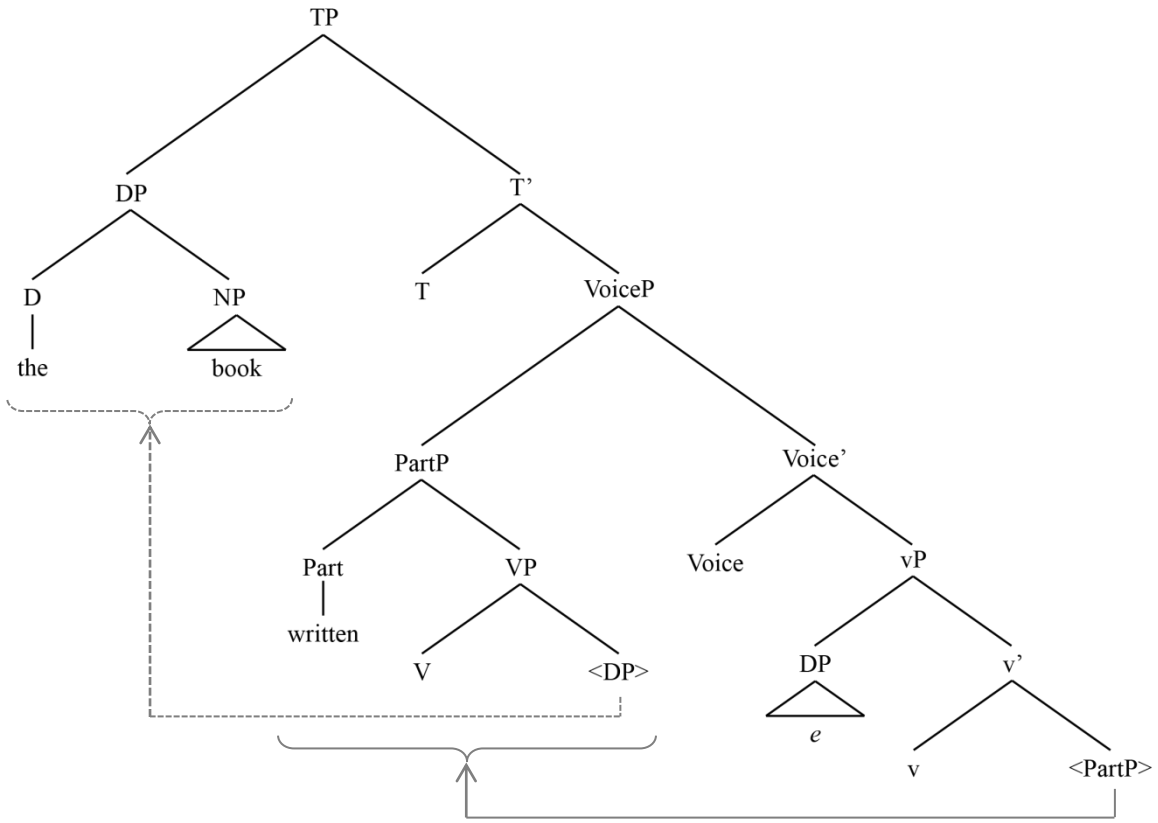


Figure (2) Representation of 'smuggling' in the passive (Collins, 2005)

In Figure (2), the 'empty category' within the vP, *e*, is a barrier to the DP *the book*; that is, *the book* cannot be moved up the structure over the barrier *e*. Instead, a larger structure (PartP) that contains *the book* is moved over the barrier to become specifier of VoiceP; it is 'smuggled' across the barrier. From the new location, *the book* can move again on its own, up to its final location as specifier of TP. This appears to be a rather heavy method of getting the Patient of an action up into subject position. For the production of a be-passive, the passive auxiliary *be* would occupy T, as in the general approach discussed above and in Figure (1). However, *get*, as a non-auxiliary verb, cannot occupy T, leaving it with no place in Collins' structure.

In terms of the passive by-phrase, Collins objects to the situation in Jaeggli's approach whereby theta-role assignment to the external argument (via 'transmission') is entirely different in the passive versus the active. In place of theta-transmission, Collins treats *by* as a "dummy-preposition". The preposition exists only to allow the inclusion of an Agent-containing adjunct; the preposition *by*, when used in the passive, does not possess interpretable features. Collins contrasts this with other uses of *by*, such as locative constructions, in which the preposition does possess interpretable semantic features.

Ahn and Sailor (2010) build on Collins with a slight revision of the VoiceP. They note that there are two previous independent instantiations of VoiceP: the first is from Kratzor (1996), who has VoiceP as both the merging point for external arguments, and the

assigner of a theta-role to that external argument; the second is that of Collins described above, where VoiceP is a phrase that assists in the formation of the passive, and is absent from the active. Ahn and Sailor combine these concepts, having VoiceP present in all voices; active, passive, and middle. They hold that passives are not derived from an underlying active-voice sentence, concluding that there is no "default" voice. However, the generation of the passive still calls for an additional phrase, FP, that is not present in the active. While they note several clear problems with their analysis (related to the motivation for various constituent movements and feature-checks within the VoiceP), the authors maintain their proposal's central quality of having a single phrase to motivate all grammatical voices.

Something notably absent from all of these approaches is any distinction between the two variant passive forms; *be* and *get*. It has even been explicitly stated by some (e.g. Quirk et al., 1972; Stein, 1979; Chomsky, 1981) that these two forms are structurally identical and interchangeable. It will, however, become clear that passive *get* is distinct from the 'standard' *be* both syntactically and semantically, through precisely how is a matter of debate.

2.2 Syntax: Get-Passive

Some of the first authors to include the get-passive in their discussions (e.g. Quirk et al., 1972; Stein, 1979) analysed the two passive-types as structurally identical, with a simple choice between alternative auxiliaries; *be* and *get*. The first syntactic analysis of the passive seeking to differentiate these two forms comes from Haegeman (1985). She begins by refuting this earlier belief that *be* and *get* are syntactically equivalent in the passive, both functioning as auxiliaries. She achieves this simply by demonstrating that *get* fails all standard linguistic tests for determining auxiliary status. These tests involve the observable syntactic behaviour of auxiliary and lexical verbs in specific structural contexts. Auxiliary verbs are able to combine with the negative contraction *-n't* (1); can undergo subject-auxiliary-inversion (2); and they may be stranded in instances of VP-deletion (3).

1) *She wasn't hired / *She gotn't hired*
2) *Was she hired? / *Got she hired?*
3) *She was hired and her friend was too / *She got hired and her friend got too*

In all of these contexts, any lexical verb will be ungrammatical; this clearly includes passive *get*. To make the formation of these structures possible with any lexical verb, support must be provided by the 'dummy-operator' *do* (4); passive *get* clearly falls into this category.

4) *She didn't get hired / Did she get hired? / She got hired and her friend did too*

Having shown the non-equivalence of the two passive-types, Haegeman proposes that *get* is an ergative lexical verb that takes a passive "small-clause complement," resulting in the following surface structure:

5) *John$_i$ got t_i killed t_i*

In being ergative, *get* is not equipped to assign Case, so when *John* moves in an attempt to satisfy its Case requirement, it is unable to do so after the first move, therefore moving again to Specifier of TP ([Spec,TP]; subject position), where it can receive Case from T (Tense-Phrase). Ergative *get* also has no Agent θ-role to assign, ensuring the DP does not receive two θ-roles. The resulting nature of the get-passive is "partly" passive "through the presence of passive morphology on the participle" (Haegeman 1985:70) and is also ergative, due to *get* being an ergative verb. In assuming that *get* is not an auxiliary verb, it follows that *get* does not raise to T; thus with *get* and *be* occupying different nodes in the tree structure, their syntactic differences are easily explained.

One notable development of Haegeman's approach comes from Fleisher (2008), who introduces an additional phrase, vP_{pass}, into the passive structure. The primary motivation for this revision comes from the following comparison of grammaticality:

6) *They were all arrested*

7) **They got all arrested*

Sportiche (1988) gives a "stranding" analysis of quantifier float; that is, stranded quantifiers are grammatical when merged in the position of an intermediate trace (a position through which a DP has moved). This is the case in (6). The fact that (7) is judged to be ungrammatical indicates the absence of a trace position in which to merge the quantifier *all*. Furthermore, this missing intermediate position is conspicuously present in the get-causative construction, as seen from the presence of the DP *them* in (8).

8) *He got them arrested*

It is these previously unexplained differences that provoke Fleisher to revise Haegeman's earlier analysis and to structurally discriminate between the get-passive and the get-causative constructions. Fleisher's solution is to propose that *get* is not head of a verb-phrase (VP), as is typically believed, but rather it is head of a passive vP (v_{pass}). This newly postulated phrase takes a VP complement. He states that by *get* merging "directly as the functional head v_{pass}", no position is left available between *get* and *arrested* for the object to move through, thereby accounting for the ungrammaticality of (7). The underlying structure as described by Fleisher is reproduced in Figure (3).

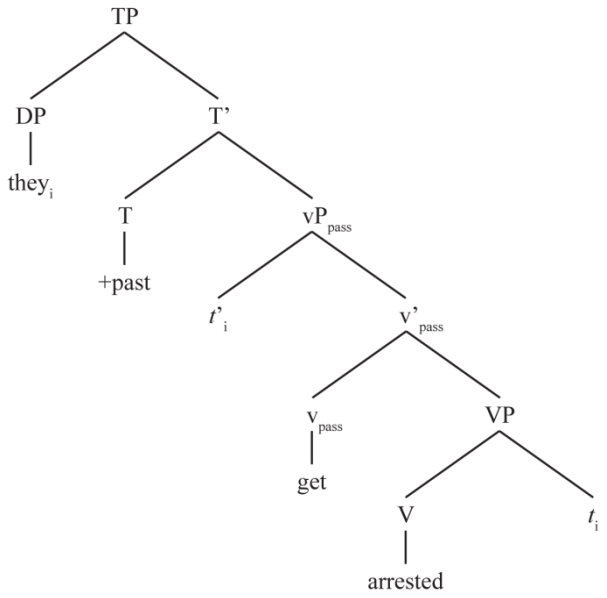


Figure (3) They got arrested (Fleisher 2008)

The contraction of the embedded VP [arrested, t_i] appears to account for the discrepancy between the examples in (6) and (7), since it eliminates the DP landing site between *get* and the main verb. The proposal of a vP_{pass} however, does not significantly add to the analysis. Uniting the VP headed by *get* and the vP headed by *be* as two instances of the vP_{pass}, is primarily a notational alteration. It provides no better explanation for the differing syntactic behavior of *get* and *be* in passive constructions, nor does it lend any assistance in explaining the semantic dissonance across the two forms. Furthermore, despite assuming an analysis with *get* and *be* both merging as head of the same phrase (vP_{pass}), it remains the case that *get* does not raise to T. Fleisher notes this simply as an idiosyncrasy.

The causative, as exemplified in (8) above, also features the passive voice. Fleisher represents this as a null vP_{pass}. He states that, in the causative, *get* is a full lexical verb heading a VP, and taking a vP_{pass} as a complement. The syntactic tree for this structure is reproduced in Figure (4).

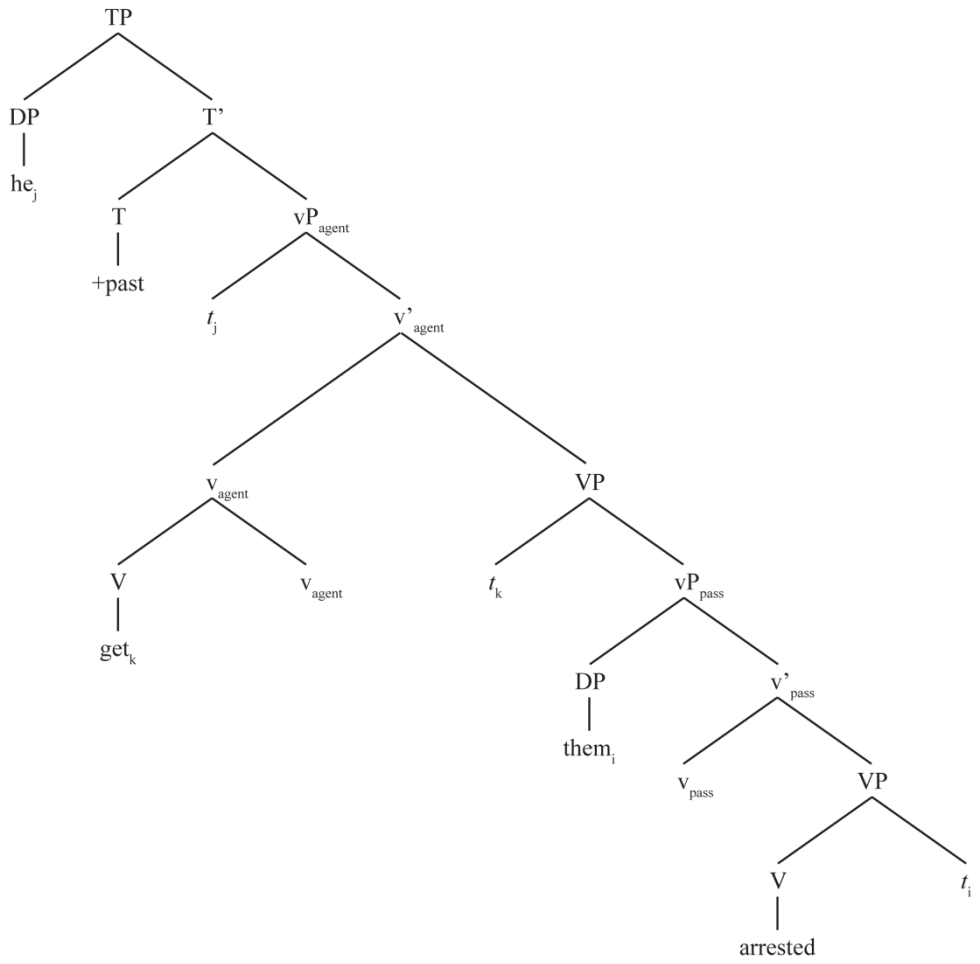


Figure (4) He got them arrested (Fleisher 2008)

In Figure (4), the structure of the vP_{pass} remains as it is in the get-passive, except that the head of the phrase is null. The direct object of *arrested* moves to [Spec,vP_{pass}], but differs from the passive as it moves no higher. If the DP *them* is to remain in [Spec,vP_{pass}] it must receive Case in that position: Fleisher suggests an instance of Exceptional Case Marking, either from *get*, or possibly from further up the structure via the v_{agent} node.

The theories discussed so far are classed as raising approaches. They involve deriving the passive-voice from the active via the raising of the active's thematic Patient into subject position. Parallel to these there have been proponents of a possible control structure underlying the get-passive. Lasnik and Fiengo (1974) seem to be the originators of this train of thought. While they do not provide an explicit exploration of the get-passive, they do highlight features that indicate its controlling nature. It is not until Huang (1999) that the control approach is given deeper consideration. In Huang's estimation, the get-passive is a subject-control verb; that is, a verb that forces the covert (unpronounced) subject of an embedded clause to refer to the subject of the matrix clause. This unpronounced element is referred to as *PRO*. Huang presents the get-passive and be-passive as very similar structurally. The primary difference is that in the be-passive, the Patient of the action is raised from direct object position to subject position of the matrix clause; while in the get-passive, the direct object is the null anaphoric pronoun, *PRO*. This means that the subject in a get-passive has not raised from direct object position; instead PRO necessarily refers to the subject. This effectively places the subject simultaneously in direct object position. To exemplify, in (9) the direct object (the Patient) is the unpronounced PRO; this has raised to become subject of the embedded clause. *John* is the subject of the matrix clause, which is necessarily co-referenced with *PRO* (this implies an interpretation along the lines of *John got himself killed*). Compare this with the be-passive, as analysed by Haegeman (1985) above, and maintained by Huang (10).

9) $John_i$ got PRO_i killed t_i

10) $John_i$ was t_i killed t_i

Huang states that this structural difference accounts for differences between the get-passive and be-passive as given in (11) and (12), and that such differences are equal to those recognized between general raising and control constructions, as in (13) and (14), in the case of subject-oriented adverbs.

*11) *John was cheated intentionally*

12) John got cheated intentionally

*13) *John is intentionally likely to win*

14) John is intentionally eager to win

The sentence in (11) does sound odd. However, I do not believe that this is due to a structural difference; it is likely to be due to the semantic interaction between cheated and intentionally: the implicit Agent would be unable to accidentally cheat John. In terms of syntax, it is comparable to the pair given in (15) and (16).

15) John was shot intentionally

16) John got shot intentionally

The sentence in (15) does not sound ill-formed as 'shooting' can occur either intentionally or accidentally, and therefore the adverb's presence is justified, and not superfluous as in (11). The reason (12) is acceptable may be that a 'causative-reflexive' reading is possible, wherein John chose to get cheated by some unnamed party. Although for both sentences in (15) and (16) a reading is available in which some unnamed party purposely shot John, it is only in (16) that this 'causative-reflexive' reading is additionally possible.

Contrary to Fleisher's approach, in which distinct representations are given to the passive and causative instantiations of *get*, Huang proposes a far more intimate relation between the structures. His analysis of the causative is that it fully contains the complete get-passive structure as "the complement of a causative VP shell" (Huang, 1999).

17) Mary [e] John$_i$ got PRO$_i$ killed t$_i$

The 'causative VP shell' is composed of an additional DP (the 'causer' of the action), plus an empty verb node; "Mary [e]". Appending this to the get-passive, as in (9) above, produces the intermediate stage given in (17). From this stage, the verb *get* is attracted up and in to the empty verb node, which results in the final form given in (18).

18) Mary got John$_i$ PRO$_i$ killed t$_i$

Although this analysis seems economical specifically for the get-passive and get-causative constructions, it does not appear to generalize to other instances of the causative. Consider sentences of the type given in (19) and (20).

19) Mary wanted John blamed for the mistake (by Bill)

20) Mary saw John blamed for the mistake (by Bill)

These sentences exhibit the same structure as the get-causative construction in (18). They differ in that the matrix verbs *want* and *see* cannot form the simple passive. Consequently there seems to be no motivation for assuming that these verbs initially merge lower in the structure before raising to their final positions. The embedded VP maintains its passiveness irrespective of where the matrix verb is initially merged. This being the case, I propose it is

more likely that *want* and *see* each merge directly as head of the matrix VP. In support of this, notice that both *be* and *get* are able to merge in the position that *want* or *see* would have raised from.

21) Mary wanted John to be/to get blamed for the mistake (by Bill)

22) Mary saw John be/get blamed for the mistake (by Bill)

It is clear that *want* or *see* could not have raised from the embedded VP, as that VP is already headed by a separate verb.

Further generalizing the idea that verbs such as want or see do not raise out of an embedded passive VP would allow causative *get* to remain independent of the passive, merging directly as the matrix verb. Such a generalization is clearly supported by the fact that causative *get* can acceptably combine with passive *get* or passive *be*:

23) Mary got John to be/to get killed

The form in (23) that contains both instances of *get* may seem slightly degraded or dispreferred, but this is likely to come from the repetition of the *get* lexeme. Regardless, this suggests that causative and passive *get* do not have as close a relationship as Huang claims.

Butler & Tsoulas (2006) argue in favour of Huang's proposal. The authors cite Alexiadou (2005) as noting that the reflexive reading of the passive is only possible with *get*. They suggest that this can be accounted for if *get* realizes a control structure of the sort developed in Huang (1999). They note further that "it is frequently possible to paraphrase control structures with a reflexive pronoun in place of PRO" (Butler & Tsoulas, 2006). While the get-passive does have the ability to project a reflexive interpretation, similar to 'classic' subject-control verbs such as *want*, they fail to note that *get* is also able to give a non-reflexive reading equal to that of the be-passive.

Recently, Reed (2011) has argued that the structure of get-passives is in fact ambiguous, having three variant forms. These include a "verbal passive" (this is the raising passive discussed above, as found in Quirk et al., 1972; Stein, 1979; Haegeman, 1985; Fleisher, 2008); a "control structure"; and an adjectival passive (from Fox and Grodzinsky, 1998).

Discussions of the get-passive construction have taken several paths. They can assume a raising or control structure, an adjectival passive, or some combination of these. However, *get*'s counterpart, the be-passive, is universally treated the same in these analyses. All authors treat the syntactic structure of the be-passive in much the same way as Chomsky

(1981), providing no notable revisions. The assumption is always that *get*, as an intruder into the domain of the passive, is the only variant that requires attention or reanalysis.

2.3 Passive Semantics and Function

Linguists have typically treated the passive as a derivative of the canonical active-voice. However passive constructions stand in parallel, serving certain purposes less available or entirely unavailable to the active-voice. While some (e.g. Weiner & Labov, 1998) have suggested that both be-passives and get-passives are semantically equivalent in general, the majority consider them distinct.

2.3.1 Passive Function

As noted by Keenan and Dryer (2006), passives allow focus to be concentrated on a specific element, in a way very similar to other topicalizing constructions such as clefting. What this means for the passive is that the Patient in a described event is elevated above other elements in terms of its relative importance; that is, its syntactic prominence is utilised in communicating some form of significance. Further to this, passives allow the backgrounding of another element: the subject of the active, typically the Agent of the described action. This reduction of focus or importance can be achieved by "relegating it to the status of an oblique NP" (Keenan and Dryer, 2006), that is, by consigning the agent of the action to a by-phrase, as in *Mary was hired by the manager*. Focus can be further depleted by completely removing the by-phrase, and therefore any explicit mention of the agent, as in *Mary was hired*.

Several other notable functional aspects of the passive are highlighted by Keenan and Dryer. First, they can function alongside other "foregrounding constructions", for example, allowing clefting of a passivized sentence. This implies a semantic non-equivalence of the passive and functionally similar constructions. Second, and related to this, passives are generally better integrated into the grammar than topicalizations and dislocations, which "tend to be limited to main clauses". Finally, they point to an important absence of distinction between active-voice and passive-voice constructions in terms of noun-phrase positions and Case marking. The foregrounded NP in a passive (the thematic Patient) appears in the same sentential location and the same Case as the subject in active-voice sentences. Likewise, the NP within the passive by-phrase receives the same Case as an active-voice object. The authors note this is also true in other languages that differ in terms of word order.

Following from their functional observations, the authors make some useful broad comments regarding the passive. They note that "in general in a language, what is distinctive about the observable form of passives is localized within the predicate or verb

phrase", and that "in examining passives in different languages, one should look for ways of forming verb phrases, not ways of modifying sentences to yield other sentences".

Many authors have sought to characterize the semantic and functional differences of the two passive-types. This has primarily taken the form of specifying the contexts in which the get-passive is or is not allowed, and consideration of features unique to the get-passive.

2.3.2 Transitivity

Perhaps the earliest functional consideration of the get-passive comes from Hatcher (1949), who states that the Agent in the get-passive holds a subordinate role; which implies that it is not subordinate in the be-passive. Although this specific suggestion is not found in other functional or semantic literature, it does appear to be supported by some corpus data, which reveals a correlation between be-passive and by-phrase inclusion (see discussion below in 2.4.3).

Arrese (1999) provides an approach that is somewhat compatible with the above. The author arranges a variety of *get* and *be* constructions within a multi-dimensional semantic space. One of these dimensions is 'degree of transitivity'; referring to the 'strength' with which an action is transferred between the protagonists involved in that action. Within the several *get* constructions, Arrese allocates the get-passive a relatively low transitivity; however, the be-passive has the highest transitivity within the *be* constructions. Since a transitive event involves two protagonists, having a low perceived transitivity could serve as the motivation for less inclusion of by-phrases in get-passives.

This is contrary to Cameron (1996), who states that the get-passive is semantically more transitive than the be-passive. For Palmer (1974), *get* communicates an action as well as the state that results from it. Again, this suggests a strong transitivity or change of state. Others have suggested that get-passives occur only with dynamic events (e.g. Cheshire, 2005). Sasaki (1999) also notes that the get-passive focuses on the described action, but may sometimes communicate a "statal passive". However, Alexiadou (2005) believes the get-passive is not permitted with stative verbs such as *know*, and cannot form an adjectival passive. Contrary to this, my own quick searches using Google reveal both to be in use. For stative verbs, a search for the precise string "got known by" reveals numerous tokens, even for this specific verb and tense combination, including "He got known by famous people", "Bucket got known by every single [Guns 'n' Roses] fan", "Kyonka quickly got known by the Hamburg techno scene", "[he] started doing parties around Arlington and

then got known by the community people", "Balestrini got known by a larger public", etc. As for adjectival passives, searching for the string "got angered at" again returns many tokens, despite the highly constrained collocation. Results include: "[I] got angered at the slightest incident", "He got angered at this", "She got angered at the thought", "Squall got angered at Anthony's arrogance", "his teacher got angered at the poor performance", etc.

2.3.3 Affectedness

Another dimension in Arrese's (1999) proposed semantic space encodes voice distinctions, established via the status of the subject as controller of the action or as the affected entity. Here, get-passives and be-passives are on more equal terms: both are weighted towards having an affected subject. This suggests that the difference between these two passive forms comes from their relative transitivity, while the degree to which the subject is affected by the event (how Patient-like the subject is) is more or less constant.

The term 'affected' is not used consistently in the literature, but generally, if an entity is affected, it is conceptualised as undergoing some experience resulting from the action described by the main verb. Contrary to Arrese (1999) discussed above, many authors, such as Sasaki (1999), do not believe the two passive forms communicate an equal degree of affectedness; instead they believe that the get-passive suggests greater subject affectedness. For instance, Carter & McCarthy (1999) suggest that the get-passive has a tendency to focus on the event itself, and how the event impacts the patient.

Cameron (1996) suggests that it is not sufficient for the Patient to simply be affected; rather they must be "materially affected". Corpus data from Downing (1996), however, gives evidence against this, providing examples such as (1). See further discussion in Section 2.4.

1) *...people who don't get loved or taken care of*

Orfitelli (2011) goes as far as to claim that "the 'affectedness' requirement is so strong that predicates that do not affect their internal argument are typically illicit with the get-passive, although they are allowed in the be-passive." The author exemplifies this through the sentences in (2) and (3).

2) *Freddie was kicked / seen by Flossie*
3) *Freddie got kicked / *seen by Flossie*

This judgement of acceptability is not universally shared. In fact, cursory interrogation of English corpora (such as COCA, Corpus of Contemporary American English, or BNC, British National Corpus) reveals that the get-passive construction is in common use with

'non-affected' verbs, including the specific verb in Orfitelli's example. A search conducted in COCA for "[get] seen" (meaning "lemma GET immediately preceding the exact form *seen*"), gives results that include "14 billion videos get seen on YouTube every month", "it might make it slightly easier for me to get seen", "it would not get seen by anyone", etc. For this specific and highly constrained search, 34 tokens were returned. Results are comparable for numerous other 'non-affected' verbs.

2.3.4 Adversity

The passive is often associated with negative events. It has been shown that, in the media, the passive (irrespective of passive-type) is often chosen over the active when describing acts of violence (Henley et al., 1995). However, Frazer and Miller (2009) claim that the relationship between voice-selection and event-type is not this simple, showing that when violence is perpetrated by women against men, the active-voice is actually preferred. This suggests that the passive does more than simply report negativity, encoding more complex event semantics.

One widely shared conceptualisation of get-passive semantics is that it communicates a sense of adversity. For some, adversity refers only to events with negative outcomes, for example Sawasaki (2000), who also states that this tendency is particularly apparent with human participants.

While Carter & McCarthy (1999) also suggest the get-passive communicates adversity, they specify that the adversity is interpreted by the speaker, not necessarily the actual Patient of the action.

For other authors, adversity is not so narrowly defined; it is understood to equally describe both positive and negative outcomes (Chappell, 1980; Sussex, 1982; Siewierska, 1984; Givon, 1993; Gronemeyer, 1999; Sasaki, 1999). The adversity may arise due to some perceived struggle; as McIntyre (2005) describes it, the get-passive "suggests that the result is hard to attain". Sussex (1982) suggests that, although get-passives can communicate both negative and positive events, negative get-passives have more semantic flexibility.

2.3.5 Patient Responsibility

Another commonly identified semantic feature of the get-passive is its ability to communicate responsibility on the part of the subject; the Patient of the action. Numerous authors note this implication of initiative, control, or responsibility (among many others,

Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999). Relatedly, Vanrespaille (1991) suggests that 'resultativeness' is a primary feature of the get-passive, and that the subject is at least partly responsible. Arrese (1997) also notes at least "partial responsibility" of the Patient. Sussex (1982) claims that get-passives can imply a wide variety of meanings, including varying degrees of purposefulness, blame, and responsibility.

The semantics of control are conceptualised by Lasnik and Fiengo (1974) in a more complementary manner between the get-passive and be-passive. The authors claim to show that when a passive sentence is formed with *get*, Patient control is assumed; when the same sentence is formed with *be*, Agent control is assumed. For example, in (4) it is assumed to be John's intention to cause the event; while in (5), the event is Mary's intention.

4) *John got fouled by Mary on purpose*
5) *John was fouled by Mary on purpose*

Similar examples are provided by Givon (1993).

According to Cameron (1996), the responsibility of the subject in the get-passive comes from an association with causative *get*, not from some inherent feature of get-passive semantics. Hatcher (1949) makes a similar claim, suggesting however that the responsibility is extended from the more explicit responsibility in reflexive *get* constructions.

2.3.6 Subject and Object Animacy

The subject (Patient) of a get-passive can be either animate or inanimate (Chappell, 1980), while human subjects are most commonly found with get-passives (Sasaki, 1999). Sasaki goes further than this, claiming that the subject of a get-passive must be in existence before the described action. As such, the author believes a sentence of the type in (6) to be ungrammatical, though this is not supported by corpus data.

6) *The letter got written*

This is compatible with the suggestion of Carter and McCarthy (1999) that the get-passive holds interpersonal meaning, which they believe motivates its greater likelihood in dialogues.

Complementary to the humanness of the Patient, Hatcher (1949) suggests the by-phrase Agent is likely to be inanimate or "non-identifiable", and when a human Agent *is* present, they have a "low degree of individualization". For Sussex (1982), however, Agent humanness is another factor that increases the semantic flexibility of get-passives.

2.3.7 Reflexivity

For Sussex (1982), the potential reflexivity of the get-passive also increases its semantic flexibility. It is noted by Givon and Yang (1994) that a reflexive or reciprocal sense is only possible when the passive is formed with *get*. Alexiadou (2005) simply notes that the get-passive is "compatible with reflexive action".

2.4 Corpus Investigations

2.4.1 Frequency and distribution of Passive-voice

It is well established that the passive-voice is the sub-dominant form for descriptions of transitive events in English. Further to this, it has been found that passives are more likely in written as opposed to spoken language. Chafe (1982) notes that passives are as much as five times more common in the written modality. Likewise, in a study utilising the BNC, Brown, Switchboard, and Wall Street Journal corpora, Roland, Dick, & Elman (2007) found that passives were less common in spoken data. Biber (1993) notes that passives are much more common in scientific writing than in spoken conversation or fictional writing.

Mair & Leech (2006) examined corpora from Britain and America: LOB, F-LOB, Brown, and Frown. Interestingly they report a decline in use of be-passives over time, as well as a rise in the use of get-passives. However, it does not seem to be the case that the be-passive is losing ground to the get-passive, since in raw numbers the fall of *be* far outweighs the rise of *get*. The authors relate this change to an apparent shift in written English towards the norms of spoken language.

2.4.2 Frequency and distribution of Get-passives

It has been noted already that passives are less common than actives. Within the passive it is *get* that is least frequent. Carter & McCarthy (1999) considered the CANCODE spoken English corpus and found just 139 instances of get-passive from a sample of 1.5 million words. Xiao, McEnery, & Qian (2006) also note far fewer examples of get-passives than be-passives in both F-LOB and BNC.

In examining the LOB, Brown, ACE, and CIE corpora, Collins (1996) notes that get-passives show similar frequency between American and British English, while Australian English shows a greater frequency than both of these, and Indian English shows the highest of all. Comparable with the finding of Mair & Leech (2006) noted earlier, Collins (1996) reports, based on the ACE corpus, that get-passives are increasing in Australian English.

Further to the above, Collins (1996) reports that get-passives are less common in formal language settings. This is compatible with Biber et al. (1999) who claim that get-passives are almost exclusively found in conversation. Likewise, Mindt (2000) reports that get-passives are mostly found in spoken language.

2.4.3 Syntax of Get-passives

The most frequently reported feature of the get-passive in corpus literature is that it tends to appear without an agentive by-phrase. Collins (1996) reports from LOB, Brown, ACE, and CIE, that 92% of get-passives did not include a by-phrase. Similarly, Carter & McCarthy (1999) report 93% without a by-phrase; Mindt (2000) reports 82%; while Rühlemann (2007) states that get-passives included a by-phrase with a frequency of just 0.079 per 1000 utterances. Medina (2009) examined the BNC corpus and reported 83.33% of get-passives did not mention the agent.

Xiao, McEnery, & Qian (2006), who looked at F-LOB and BNC, state that agentless passives were the most common form for both *get* and *be*, with no strong difference between them regarding by-inclusion likelihood. However, Guoliang & Lei (2010) report fewer by-phrases in get-passives than in be-passives for both British (BNC) and American (COCA) English.

2.4.4 Context of Get-passives

A common observation is that get-passives occur in adversative contexts. Based on the LOB, Brown, ACE, and CIE corpora, Collins (1996) reports that get-passives appear in adversative contexts 67.4% of the time, and in beneficial or neutral contexts, respectively, 23.4% and 9.3% of the time. Carter & McCarthy (1999) also report that 124 of the 139 get-passives in the CANCODE corpus are in adversative contexts. Xiao, McEnery, & Qian (2006) report, based on F-LOB and BNC, that 46.5% of get-passives were negative, while only 27% of be-passives were negative. Contrary to these results, Forchini (2008) suggests, based on USBoE and AMC6 corpora, that most get-passives are not negative, but rather the majority are in fact neutral.

Although studies on the syntax of passives suggest that by-phrases are rare, Guoliang & Lei (2010) indicate based on COCA and BNC, that when a by-phrase is included, both get-passives and be-passives have a tendency to have inanimate agents.

Xiao, McEnery, & Qian (2006) have suggested that get-passives are most likely to occur with verbs related to basic daily activities and events, such as *dress*, *change*, or *wash*.

2.5 Experiments

While there are studies that examine the two passive-types experimentally, most focus on child language and acquisition, with few experiments focussed solely on adults. Furthermore, investigation of the differences between *get* and *be* in the passive often appears as a secondary aspect. Nonetheless, I will discuss available studies below. This will at least be informative regarding the types of paradigm appropriate to this research.

Budwig (1990) reports on two studies; the first is an observational diary study, which informs the second, which is an experiment that employs a rating paradigm. The former considered the diary entries of two girls written when they were between the ages of 2 and 10. Budwig found a total of 142 passive constructions and coded them at several levels, including auxiliary (*be* or *get*), full versus truncated, various characteristics of the subject, verb semantics, and inclusion of a modal auxiliary. The author found that these girls produced more passives under the age of 5, and more be-passives than get-passives at all ages. In fact, the gap between *be* and *get* usage appeared to increase with age. She also found that truncated passives were more frequent at all ages. Although she reports that 30% of be-passives and 48% of get-passives were 'full' passives, adjuncts other than agentive by-phrases were included in this measure, so these figures should be viewed cautiously.

As regards characteristics of the subject, most were inanimate and the majority were not 'self', i.e. not the writer of diary, though self-Patients were more likely with *get* (26%) as opposed to *be* (15%). Get-passives were also more likely to feature an animate Patient (59%) than be-passives (32%).

While most passives referred to neutral events, this was driven by the frequency of be-passives, since 65% of get-passives actually described negative consequences. Passives also had a tendency to be used with 'action' verbs, with very little overlap between those used in be-passives and those used in get-passives.

The second study by Budwig (1990) involved both adults and pre-school children, with 10 participants in each of the two age groups. The task was to read out sentences, judge acceptability, and then, if possible, offer a 'repair' to any dispreferred sentences. The materials contained passives using either *be* or *get*, and either included an agentive by-phrase or did not. These features were considered 'matching' when there was a be-passive with a by-phrase, or a get-passive without one, and were considered 'deviant', i.e. mismatching, when a be-passive had no by-phrase, or a get-passive did have a by-phrase. Strangely, this assumption is in complete opposition to the findings of Budwig's own

previous study, which found that by-phrases were more frequent with get-passives than be-passives.

Children did not provide many alternatives for dispreferred items, but when they did, they did so mostly in the mismatch conditions. Adults, on the other hand, were most likely to suggest repairs to get-passives, regardless of matching status. While children would 'repair' by changing the auxiliary (*be* or *get*), adults differed depending on condition. In mismatching conditions they would 'correct' get-passives to be-passives, and be-passives to active-voice. In matching conditions, however, they would correct get-passives to either be-passives or active-voice, and be-passives to other formulations, i.e. altering something other than just voice.

Although these experiments indicate some potentially interesting possibilities, they both have clear inadequacies. The first uses data from a limited source (diaries) and from just two participants, which, as the author freely states, restricts the conclusions that can be drawn. The second study, despite having four conditions, is split between two lists and 20 participants (10 adults). This does not allow for an evenly rotated design, and the small group sizes prevent any meaningful inferential statistical analysis. Nonetheless, the trends identified in the data are worth further consideration.

Marchman et al. (1991) used a picture description task, again using adults and young children (3-11 years). Scenes in short animations showed either intransitive, prototypically transitive, or non-prototypically transitive events. After watching a scene, participants gave a description of the event, which was then coded for voice (active or passive), auxiliary (*be* or *get*), and by-phrase inclusion.

The authors found that the use of passive in general increased with age, and increased in descriptions of prototypically transitive scenes. Children were more likely to use passives without by-phrases, and were more likely to use get-passives.

Another study was conducted that had a primary focus on the by-phrase. This experiment, by Fox & Grodzinsky (1998), involved children only. Here, events were acted out with toys and then a puppet (controlled by the experimenter) gave a matching or mismatching description of the event. Mismatching conditions incorrectly swapped the Agent and Patient, giving the actual Agent of the action as the Patient, while matching conditions provided correct descriptions. Additionally, descriptions were either be-passives or get-passives, with an active-voice control condition, and were either full or truncated (some

verbs only appeared in the 'full' condition, while others appeared in both). The children were asked to judge whether the puppet's description was correct, and if not, were further asked *What really happened?*

The main finding of the study was that for non-actional verbs with a by-phrase, children preformed no better than chance in their judgements, while in the absence of a by-phrase they performed well above chance. The authors take this to demonstrate that difficulties children may have with passive sentences is driven by the by-phrase.

Brooks & Tomasello (1999) ran a priming study with children all around the age of 3. The children were taught nonce words, learning them either in passive-voice only or in active-voice only. The experiment aimed to investigate whether syntactic priming would be possible for the nonce words, since there is no chance the children could have previously heard the verb in a voice other than that in which they learned them.

The results were that syntactic priming was successful. Participants produced passive-voice descriptions with nonce verbs they had previously learned only in active-voice, and vice-versa. The authors use this to claim that some children have an understanding of passive versus active by the age of 3.

One of the only studies to look solely at adult language users comes from Sawasaki (2000). The author used a rating questionnaire to examine perceived adversity generated by two factors. Single sentences were presented using either be-passive or get-passive, and involving either a human Patient or a non-human Patient. There was also an active-voice baseline condition. There was no context provided so as to have rating based purely on the two factors given above. Participants were asked whether the implications of the sentence were *unpleasant, neutral,* or *pleasant.*

The only significantly different condition was the one having both a get-passive and a human patient. This condition was most frequently judged to be unpleasant (37% of the time). This demonstrates that *get* alone is not the cause of the apparent adversity of get-passives, but rather the combination of *get* with a human Patient.

Meints (2003) conducted three separate experiments involving the passive; two focussed on child language, and one on adult language. The first was an event description task with 35 children aged 2, 3, and 4 years. Toys were used to act out scenes, after which the

children were asked *What happened to the X?,* where X was always the Patient of the action.

Passive responses were dominant, being produced in 60.8% of descriptions. Children primarily produced be-passives, with only 4.8% of passive responses using *get*. The inclusion of a by-phrase was not different between get-passives and be-passive, contrary to the findings of Budwig (1990).

The second experiment was carried out with a different group of 26 children, again aged 2, 3, and 4 years. This time scenes were acted out by the experimenter, using the experimenter and the child as the two characters. Children were then asked *What happened to you?* The expectation of this altered paradigm was that the personal involvement would facilitate get-passive use.

In this study, active-voice responses were preferred, and be-passives were still preferred over get-passives. This does not support the findings of Budwig (1990), which Meints claims shows variation in passive use between American (Budwig's study) and British (Meints's own study) children.

The third study had 29 undergraduate students completing a rating questionnaire. Sentences in either be-passive or get-passive were rated on a scale from 1 (very good) to 7 (very bad) in regard to how good an example they are of 'a passive'.

The difference in the ratings for *be* and *get* were statistically significant, with be-passives rated as better examples of passive (mean: 3.06; SD: .73) than get-passives (mean: 4.09; SD: .66). This is compatible with the findings of Budwig (1990), where participants generally 'corrected' get-passives into be-passives, and be-passives into actives. Meints also coded scenes for their 'typicality' and found an interaction between passive-type (*be/get*) and typicality; that is, typicality did not affect ratings for be-passives, but did effect ratings for get-passives such that atypical scenes increased ratings for get-passives. In other words, get-passives were judged to be even worse examples of 'passive' when they described an atypical scene.

Messenger et al. (2008) conducted two priming studies, once again looking at children's language use. The participants were between 3 and 5 years old. In the first experiment the authors primed children's picture descriptions via active or passive sentences. Primes also used either actional or non-actional verbs.

The authors found more passive descriptions after passive primes than after active primes, but no effect of the verb type in the prime. This demonstrated that children are sensitive to syntactic priming from a young age.

The authors note that others (e.g. Harris & Flora, 1982; Marchman et al. 1991) have claimed that children are more likely to use get-passives than be-passives in early production. As a follow-up to the previous study, Messenger et al. repeated their earlier paradigm with active, be-passive, and get-passive primes.

They found that both auxiliaries prime themselves and each other; that is, *be* primes both *be* and *get*, and likewise, *get* primes both *be* and *get*. However both auxiliaries were more likely to prime themselves than to prime their counterpart. The authors suggest that this is likely due to lexical repetition. Furthermore, they found that get-passives were more common overall (63%) than be-passives (37%), which supports previous findings, such as those of Marchman et al. (1991) discussed above.

Chapter 3: Motivation and Overview

3.1 General Motivations

Through this work I aim to clarify the use and function of the two passive-types; *be* and *get*. As noted in Chapter 2, passives in general are an alternative to the active-voice and are used to bring the Patient of a transitive event into focus, or force the Agent into the background. However, the passive in English is further divided into be-passives and get-passives. If they were equivalent or wholly interchangeable, as suggested by some (e.g. Chomsky, 1981; Weiner & Labov, 1998), then there would be no reason to maintain both variants. Yet the two forms remain in use, with reports that the get-passive is actually increasing in frequency (e.g. Collins, 1996; Mair & Leech, 2006). It seems reasonable to assume, therefore, that these two variants have their own unique functions. However, the specifics of these functions are not immediately apparent, having prompted a wide range of interpretations that are frequently incompatible.

This thesis aims to elucidate the individual functions of the be-passive and get-passive that allow them to co-exist. It aims to examine the degree to which these functions overlap, as well as how they interact with the frequency and usage of each form.

Following from the above, by clarifying the usage and distribution of these variants, their functions can be taught more effectively in first language classrooms, as well as in teaching English as a foreign language. In the case of second language users, knowledge of subtle difference in the application of two variants can assist in the quest to become a native-like speaker.

3.2 Shortcomings in Theoretical Literature

In Chapter 2, I discussed current thinking regarding the passive in both Linguistic and Psychology literature. From this, several shortcomings are clear, which I hope to address in the present work.

Literature from the fields of both Linguistics and Psychology show frequent inconsistency and wide disagreement. In Linguistics, the syntactic approaches to the be-passive are almost universally consistent, while authors struggle to accommodate the get-passive. Since the get-passive is generally viewed as an inferior and interloping passive form, all efforts have been on trying to account for its structure, while maintaining the syntactic differences between it and the canonical be-passive. All of the theoretical syntactic accounts of the get-passive differ from each other, and each proposed structure

displays significant variation between the be-passive and get-passive. This latter fact is in spite of all passive forms having several clear features in common. In this thesis I hope to move towards a syntactic theory that allows an accurate description of passive function, while acknowledging the commonalities across all forms of the passive.

Further to the lack of agreement on the syntactic structure of the passive, there are also numerous partially conflicting or completely opposing claims regarding get-passive semantics. As detailed in Chapter 2, this ranges from basic matters of *get* and *be* equivalence (e.g. Weiner & Labov, 1998) or non-equivalence (e.g. Chappell, 1980; Lasnik & Fiengo, 1974; etc.), to specifics such as get-passives communicating primarily negative outcomes (e.g. Sawasaki, 2000) or equally communicating both negative and positive outcomes (e.g. Sussex, 1982; Givon, 1993; Sasaki, 1999; etc.). I aim to address this disagreement theoretically, through a theory that allows for the flexibility of the get-passive and accounts for the differences between *get* and *be*, as well as addressing it empirically, via a series of experiments focussing on specific semantic aspects on the two passive-types.

The most striking shortcoming in the theoretical literature is that claims are often made that are so easily falsifiable with readily accessible data. Some linguists may claim that competence is most important, hence corpora, such as BNC, COCA, or Google, are not relevant data sources. However, we do not communicate through competence, we communicate through performance. If there are significant observable patterns or consistencies in real-world usage, i.e. in performance, is it not more logical to say that this usage represents the language as it is stored in the brain? The (implausible) alternative would be to say that an error in transferring competence into performance is systematically repeated across the population. In this thesis, any theoretical claims will aim to be descriptive of the language as it is currently used, and not prescriptive of some ideal way that it 'should' be used.

3.3 Shortcomings in Empirical Literature

The literature in Psychology is somewhat narrow in scope. The majority of experimental data is gathered on child language use, rather than adult use. This may relate to a general perception that there is something 'wrong' with the get-passive; something that one can grow out of as linguistic competence increases. It is not my point that the developmental literature is not relevant; rather that adult performance is at least as relevant, and perhaps more so, since adults have fully acquired their first language, and are representative of real-

world usage. Since so few experiments are conducted with the adult population, this thesis will seek to rectify the situation by running a set of experiments with adult participants.

Since most studies focus on children, the research questions that they address are primarily linked to development, such as the age that children understand passives or can be primed to use passive-voice or active-voice. With so much unresolved regarding how get-passive usage and semantics differs from the be-passive, there are several questions that can be addressed experimentally. With this thesis, I aim to explore a selection of the suggested functions and semantic peculiarities of the get-passive. I will achieve this through a series of experiments using various paradigms to probe these specific aspects.

A final matter of concern in experimental literature is that some well-purposed experiments have been run with a number of participants that is insufficient for making confident conclusions or for employing inferential statistics to support any claims made. Again, I will address this by ensuring that the experiments in this work test large enough groups of participants to facilitate statistical analyses.

With opposing theories regarding aspects of be-passives and get-passives, any positive results from the experiments in this thesis will inevitably lend support to some and conflict with others. This is precisely why these experiments are important and necessary: with current theories and minimal experimental data falling in various directions, strong empirical research is needed in order to move towards the most accurate description of actual language usage.

Get is on the rise; we should probably figure out what it does.

3.4 Overview of Experiments

After discussing a new theoretical approach to the English passive in Section I, the subsequent sections present a series of studies investigating various aspects of the be-passive and get-passive. Since the existing literature is not in agreement (as detailed above), many of these studies are somewhat exploratory. The experiments are divided into three sections: Passive-Types and By-Phrases; Properties of the Patient; and Passive-Type and Patient Intention. Additional background and motivation is provided ahead of each of these sections.

Section II covers three experiments. The first uses an acceptability rating paradigm, coupled with a free-response, to identify the relative preference for active-voice, be-

passive, and get-passive. It demonstrates an apparent hierarchy of these alternatives (active > be-passive > get-passive), indicating that get-passives and be-passives are not equal as alternatives to active-voice; they form separate levels, rather than both being classed as a single 'passive' category. The second experiment uses a text-change-blindness paradigm to examine the semantic relatedness of be-passives and get-passives, as well as their relationships with the inclusion of an agentive by-phrase. Results indicate that get-passives may have a broader semantic application than canonical be-passives. The final experiment in this section uses a syntactic priming paradigm to investigate the degree to which the various forms of passive structurally overlap. It is shown that there is partial syntactic overlap, consistent with the theoretical proposals of Chapter 4.

Section III includes two experiments. One used a rating paradigm to examine whether variations in voice can influence the perceived responsibility assigned to the Patient. Results displayed no significant effects, perhaps due to the written modality allowing excessive self-editing to match some 'ideal' form. The second experiment in this section considered another commonly suggested feature of the Patient specific to the get-passive. Using a paraphrasing paradigm, the effects of focus and givenness on passive-type selection are examined. Results demonstrate that separate factors promote the use of each passive-type over the other; that is, be-passives and get-passives each responded to only one of the manipulations. This reveals that these two passive-types, while overlapping in usage, have their own functions.

Section IV covers two experiments, preceded by a short pre-test study. The pre-test successfully confirms the validity of the materials to be used in the two main studies, establishing various contextual levels of Patient intention. The first employs a fill-in-the-blanks task, conducted with both British English speakers and American English speakers. While the results are inconclusive in relation to intentionality, it is shown that no significant difference in passive use exists between these two varieties of English. The final experiment uses eye-tracking in reading to consider the interaction between Patient intention and passive-type. Among other results, it is shown that when the Patient does not have control over the described action, get-passive use is promoted. Also, contrary to much of the literature, it is indicated that events with negative outcomes are most likely to be described using a be-passive.

Section I
Passive Theory

Chapter 4: The pvP Theory

4.0 Introduction

In the preceding Chapters I have discussed existing approaches to passivization in English. This has included considerations of the passive versus the active, and of the get-passive versus the be-passive.

All of the authors who have examined the syntax of the passive agree on the basics of the be-passive structure, while each offering a different analysis of the get-passive. These analyses of passive *get* not only differ from author to author, but are consistently distinguished structurally from the be-passive. Despite all forms of the passive having several semantic and syntactic features in common, no theory thus far is able to give a simple or unified account of this collection of constructions. Each syntactic approach necessitates a number of distinct underlying representations to describe the various passive-types, along with assorted caveats to ensure there are no violations of established principles or conditions.

The semantics of the passive forms also raise debate. There is no suggestion in the literature that clearly describes a central meaning of each, and no approach that appears to account for both the differences and similarities between the get-passive and be-passive, nor for the differences in their degree of variability.

In order to harmonize this situation, a new approach is clearly required. All the passive forms share several attributes, from the canonical be-passive to the partial passive in causative constructions. For example, in all forms the main verb has the same inflection; the clausal subject is interpreted as the Patient of the action; and the inclusion of an agentive by-phrase is optional. These can be seen in example (1).

1) *The cat was seen (by the dog)*
   The cat got seen (by the dog)
   The mouse wanted the cat seen (by the dog)

From the above it can be seen that the actual usage of the various passive forms is more consistent than one would guess from any given theory discussed in previous chapters. There are clearly differences between the forms too. In this thesis I am considering two of the variants; be-passives and get-passives. As I have detailed in Chapter 2, these differences include syntactic ones (e.g. question formation - see Section 2.2) and semantic ones (e.g. Patient responsibility or control - see Section 2.3). Any new approach

to the passive must seek to account for these commonalities as well as the variations between each form. This is what I aim to do in the approach discussed in this Chapter.

4.1 A new syntactic approach

4.1.1 The basics

I begin by assuming 'the passive' is a self-contained unit within a passive sentence. It is the same in each instance of the passive, whether it is formed with *be* or *get*, or is part of a causative construction. In terms of syntax, this unit is a specific phrase that can be merged as a verbal argument; that is, it functions as an object of a verb. I have termed this unit the *pvP* or *passive light-verb Phrase*. The head of this phrase, the pv^0, contains the passive light-verb, which is phonetically null and represented as 'ø'. The pv^0 node forms a complex predicate with a Verb Phrase (VP) headed by the main lexical verb, which displays past-participle (or so-called 'passive') morphology. The direct object of the primary verb, in *all cases of the passive*, is the phonetically null anaphor PRO. The use of PRO is well established in generative grammar. It primarily appears as the unpronounced subject of infinitive clauses, as in (2). However, it is not excluded from appearing in object position: its structural definition is simply that it occurs in positions that do not receive Case; also, see Huang's (1999) analysis (discussed in Chapter 2) in which he employs PRO in the object position of get-passives specifically.

2) John wanted PRO to go to town

In (2), PRO is co-indexed with (necessarily refers to) the subject DP, *John*. In the case of the pvP, the PRO is also co-indexed with the subject DP: in simple passives this is the matrix subject, while in causatives it is subject of the embedded DP. I will return to this shortly.

The pvP remains insular all the way up to surface-structure. In order to satisfy the Extended Projection Principle (that all clauses must have a subject), the direct object *PRO* raises to specifier of pvP (the subject position of the pvP), and moves no higher. This means that, unlike in existing theoretical approaches (including Haegeman, 1985; Huang, 1999; Butler & Tsoulas, 2006; Fleisher, 2008; Reed, 2011), the matrix subject is always a discrete DP (i.e. it does not raise from direct object position). The pvP exhibits structural consistency through all passive forms, with the passivized verb, V^0, being the only variable. The 'passivized verb' is the verb that undergoes passivization, i.e. is morphologically marked as Past Participle, and whose thematic object is displaced. The bare syntactic structure of the pvP is detailed in Figure (1).

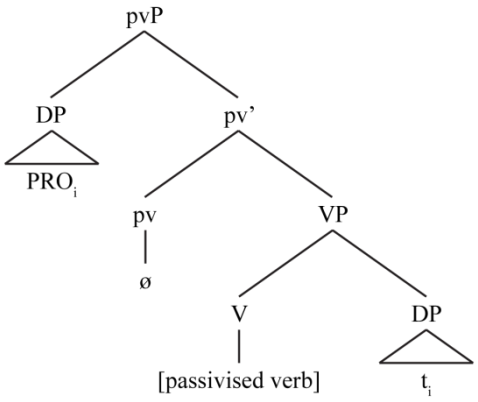


Figure (1) Bare structure of the pvP

This unit, the pvP, is the core of the syntactic model I am proposing, with implications for both the syntax and semantics of the various passive forms. Below I will discuss the pvP as it appears within each of these passive constructions. I aim to demonstrate both the ease with which each is built around this core phrase, and the notable consistency of the structures.

4.1.2 The Causative: A 'Double-Object Passive'

Frequently there is no phonologically explicit passive auxiliary in the causative-passive construction, though passivization has certainly occurred. For instance, the DP *Mary* in (3) is interpreted as the semantic, or thematic, object of the verb *kill*, though it appears in a raised position.

3) John wanted Mary killed

This absence of an explicit passive auxiliary (e.g. *get* or *be*) has motivated the various and divergent approaches (see especially Fleisher, 2008). However, taking the pvP as a constituent generates a simple state of affairs.

In a causative construction such as (3), the verb *want* functions as a di-transitive verb, taking three arguments: a subject, the DP *John*; and two objects, the DP *Mary*, and the pvP *PRO$_i$ killed t$_i$*. The anaphoric *PRO* necessarily refers to the preceding DP, *Mary*. The structure for (3), as interpreted under a pvP analysis is given in Figure (2). The dashed box denotes the passive portion of the structure; the pvP itself.

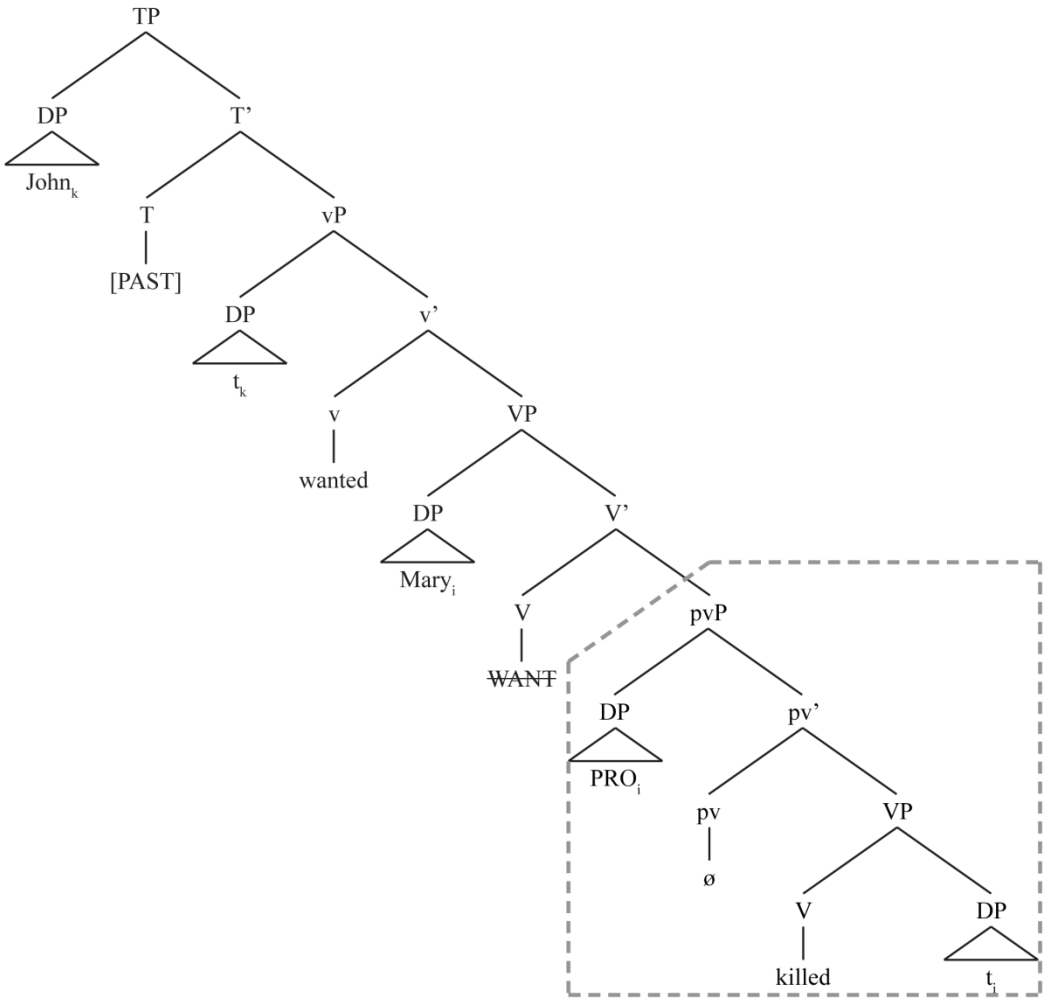


Figure (2) Representation of John wanted Mary killed under a pvP analysis

The structure in Figure (2), here formed with *want* as the matrix verb, is possible with any of a small set of verbs occupying the matrix verb position, including *see*, *have*, *want*, *expect*, and *get*. Taking these verbs as forming a double-object construction in the causative (selecting DP and pvP complements), allows a single account for the whole set of verbs (contrary to Huang, 1999). All verbs that can appear as the matrix verb are not themselves passive; they all function the same as they do outside of causative or passive sentences. The only difference is that in this instance they have been combined with a pvP complement, rather than some other complement type. As such, I will refer to this type of passive as a 'Double-Object Passive'.

In Huang's approach (Huang 1999), the causative-passive is directly related to the get-passive, with *get* raising into a higher VP. This seems plausible in the case of *get*, however, as noted in Chapter 2, the causative-passive is parsable with several verbs, of which it is only *get* that can form the simple passive. It is far more parsimonious to describe all of these verbs as behaving in a common manner: none of them are passive in

themselves; the 'passiveness' of the sentence is generated through the inclusion of a pvP argument.

4.1.3 Be and Get: 'Single-Object Passives'

While *get* (among other verbs) selects three arguments in the causative, in the so-called 'get-passive' it selects two: a DP subject and a pvP complement, as shown in Figure (3). Again, the dashed box contains the pvP; the passive part of the structure.

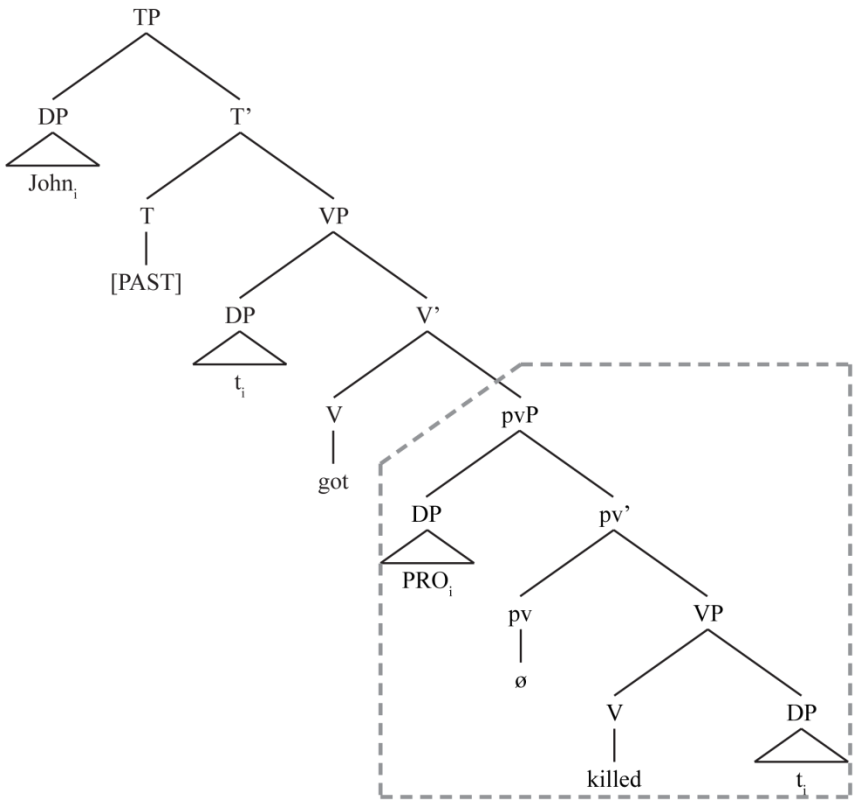


Figure (3) Representation of John got killed under a pvP analysis

As with the matrix verbs in the causative, *get* in Figure (3) is not passive, nor is it a passive auxiliary of any kind; it is the same lexeme that occurs in other transitive constructions. As above, the passiveness of the sentence comes from *get* selecting a pvP complement. This differs from the majority of existing approaches to the get-passive (e.g. Haegeman, 1985; Fleisher, 2008; Reed, 2011), in which *get* has some specific form that appears in the passive.

Finally there is the case of the be-passive. This is the most widely agreed upon in structural terms, and is regarded in some sense as the 'true passive'. In practice, this situation

necessitates a multitude of additional structures to fully represent "the passive," since the nature of this accepted version of be-passive structure is not capable of accounting for the syntax or semantics of other passive forms; the get-passive and causative constructions require their own unique structures.

With the inclusion of the pvP as a constituent, the situation can once again be greatly simplified: the be-passive can be taken as an instantiation of copula *be* with a pvP complement, as shown in Figure (4). As before, the dashed box shows the structure's passive section.

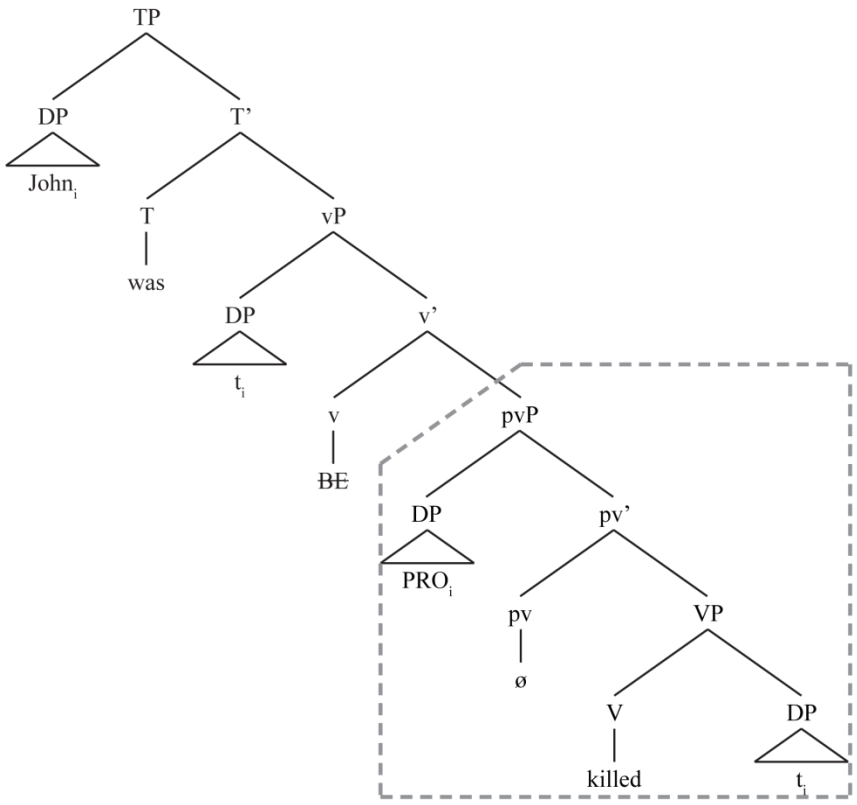


Figure (4) Representation of John was killed under a pvP analysis

As with *get*, the lexeme *be* is not passive, nor is it a passive auxiliary; it simply belongs to a group of verbs that are able to take a pvP complement. To clarify, *be* is not a *passive* auxiliary, it is simply *an auxiliary*. Once again, it is the pvP that provides the passiveness of the sentence. For these types of passive I will use the term 'Single-Object Passive'.

Since neither *be* nor *get* is a passive auxiliary, and only the former is an auxiliary of any kind, referring to them in such a way is misleading. With no alternative in the existing literature, I will use the term 'passive verbal complement', or *pvC*. This term represents the

fact that these lexemes are needed in the construction of a simple passive sentence, while avoiding any reference to 'passive auxiliary' status.

Importantly, the structures in Figures (3) and (4) allow a minimal account of the syntactic differences noted from Haegeman and Fleisher in Section 2.2. With both *get* and *be* existing entirely outside of a self-contained passive constituent (the pvP), the two verbs (pvCs) can continue to act as they do in all other non-passive sentences. That is to say, *get* is a full lexical verb heading a VP. On the other hand, *be* is an auxiliary verb, and as such can act as one in question formation, VP-ellipsis, etc.

This approach also correctly predicts the variation in grammaticality noted in Chapter 2 regarding the insertion of a quantifier, repeated in (4). The issue here is that a quantifier, such as *all*, can only appear grammatically in the location of a trace; a location from which a constituent has raised. In this case the constituent that has raised is *They.*

4) *They were all arrested*
   **They got all arrested*

In the get-passive (that is, a single-object passive as formed with the pvC *get*; see Figure 3), the only trace left by the subject is above *get* in the structure. This means that a floated quantifier can only be placed above *get* (in the location of the trace), with no locations available below. In the single-object passive with *be*, the subject leaves the same trace as in the single-object *get* passive. A floating quantifier again only has one available location, but in this case the auxiliary verb *be* raises higher up the structure to T^0 (as all auxiliaries do), thereby allowing the quantifier to follow *be* (see Figure 4).

There are some types of sentences (5) that may appear to be double-object passives. However these are instances of the single-object passive.

5) *John wanted Mary to be killed*

The infinitive form of *be* or *get* actually lies within an embedded clause; the TP-object of *want.* The resulting structure is comparable to sentences of the type in (6):

6) *John wanted Mary to be happy*
   John wanted Mary to be a teacher

Treating the pvP as a constituent that is able to be selected as an argument means that the sentences in (5) and (6) are structurally identical, as represented in Figure (5).

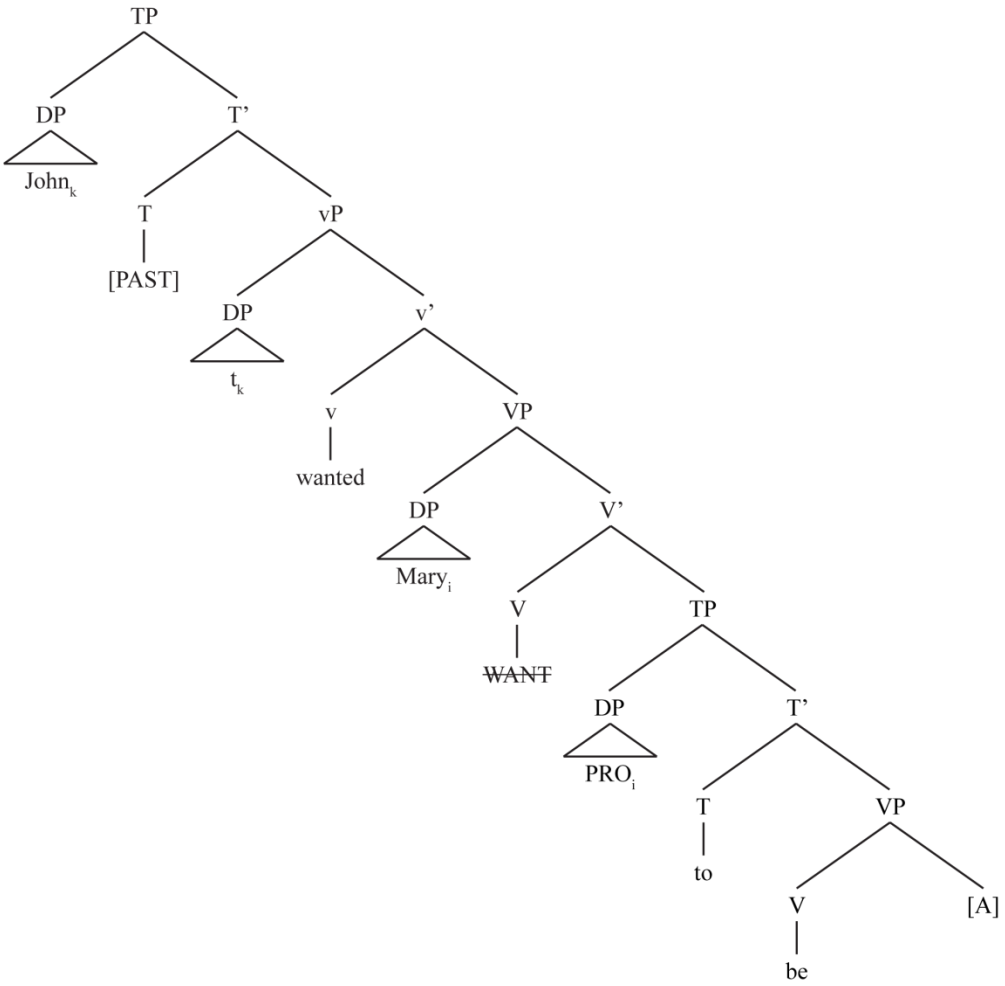


Figure (5) Representation of partial sentence John wanted Mary to be [A] under a pvP analysis

At point [A], various arguments can be merged: a DP such as *a teacher*; an AP such as *happy*; a PP such as *at the front of the room*; or a pvP such as *PRO$_i$ killed t$_i$*. When a pvP is selected, it is the only object of the pvC (*be* in this example), and therefore, despite the apparent complexity of the overall structure, this is an instantiation of a single-object passive.

In a single-object passive in which the pvP within an embedded clause (as in 5), there are two possibilities regarding the embedded TP's specifier (i.e. its subject position). It may be the case that the phonetically null subject of the pvP raises further to become specifier of the TP. Alternatively a separate PRO may merge in each position; that is, one within the pvP, and one within the TP. Either way, the empty categories form a co-referential chain, meaning that these positions all refer to the same entity, namely *Mary*.

4.2 A new semantic approach

The approaches in the literature to the semantics of the passive, and more specifically, of the get-passive, have been diverse. As regards the role of the passive versus the active, I agree with the notion that the passive is one method that interlocutors can employ or note the salience of the Patient or to assign salience to the Patient of a described action (as noted for example by Keenan & Dryer, 2006). This is true for both passive *get* and passive *be*.

The majority of approaches to passive semantics consider what it is that *get* does, as opposed to what each of the pvCs (*get* and *be*) do; generally noting a function of the get-passive, while leaving its absence from the be-passive as implied. This in itself suggests a general consensus whereby the get-passive possesses functions supplementary to those possessed by the be-passive, rather than each having their own distinct or complementary functions. Furthermore, many authors, usually seeking features that are present in all instances of the get-passive, highlight just one or two features of the get-passive, and do so using highly specified examples to support their claims. These examples need to be so constrained because they only apply in certain circumstances; that is not to say they are incorrect, only that they are not universally applicable.

Under the pvP analysis I do not claim that there is a prototypical meaning of the get-passive or argue for one or other of the existing proposals. Instead, I suggest how these various meanings are produced, and why the observed variability is possible with the get-passive.

With the 'passiveness' of any given passive sentence contained wholly within the pvP unit, any verb selecting the pvP as a complement is free to behave as it does in non-passive constructions. That is, the two pvCs (*get* and *be*) are outside of the passive portion of the sentence. I have already discussed how this applies to the syntax of the passive, and I will now argue that it can equally be applied to passive semantics.

As proposed above, the lexeme *be* in the passive is taken simply as copula *be*; it is an auxiliary. It functions analogous to a logical operator, roughly equivalent to an entailment sign. *John is tall* describes a situation in which *John* entails *tall*. In the same way, *be* describes a logical operation in which *John* entails a state wherein he has been killed: PRO_i *killed* t_i. As an operator, *be* provides no additional information beyond stating that someone came to be in a certain situation.

On the other hand, *get* is a lexical verb. It has a greater depth of meaning than *be*, since auxiliaries are purely functional, while lexical verbs also possess their own

semantics. Furthermore, the lexical verb *get* is capable of communicating several independent meanings. Some authors have attempted to determine the 'core' meaning of the lexeme *get*. These have included 'result' (Forchini 2008), and 'obtain' or 'receive' (Johansson & Oksefjell 1996). With the pvP placing *get* outside of the passive portion of the syntactic structure, there is no need to distinguish a specific *passive get* from the several non-passive uses of *get*. This means that the semantics of the lexeme *get* apply equally regardless of whether it is used in passive or non-passive constructions.

Though it is not my aim to explain how each and every interpretation of the get-passive can be derived, I will give two brief examples below.

First, under the reading of 'obtain', as in *John got a book from the shelf*, or perhaps 'achieve', as in *John got recognition*, the reflexive interpretation of the get-passive can be communicated. That is, *John got killed*, with a reflexive reading, could roughly paraphrase as *John obtained/achieved his own killing*. The specific meaning is modulated by, among other things, the nature of the event. Nonetheless, *get* is able to provide the reflexive sense via one of its several accepted meanings.

Second, the reading of *get* as 'receive', as in *John got a shock*, accounts for the 'truly passive' interpretation of the get-passive; that is, examples where the subject is a passive recipient of a described situation. This would include instances such as *John got hit by a bus*, where John has no prior knowledge of the event's occurrence. Again, the exact interpretation can be altered, for example, by the semantics of the main verb or the context.

The main point to be made in relation to get-passive semantics is that there are numerous meanings of *get* that can be drawn on. The be-passive, however, is limited in this regard, being an auxiliary and carrying no additional associations. Essentially, the get-passive is more semantically flexible than the be-passive. This is accounted for in my proposed pvP theory by virtue of the two passive verbal complements (*get* and *be*) remaining outside of the passive structural unit.

Unlike existing approaches, which assume there are individual passive forms of *be* and *get*, I assume that they are the same verbs that function elsewhere in the language. There are further implications of this. For example, using the option that has a greater semantic weight behind it allows a speaker to communicate an added degree of involvement, or perhaps empathy. It allows a speaker to demonstrate or encode that they sense some importance beyond a simple logical description of events.

4.3 pvP summary and conclusions

In the preceding Chapters I highlighted the variety of approaches that have been proposed to deal with both the semantic and syntactic variations between the be-passive and other passive forms. I have demonstrated that the syntactic approaches not only conflict with one another, but that there is no approach that satisfactorily accounts for the several types of passive without recourse to numerous underlying structures and caveats. Likewise, the semantic accounts of the passive forms seek to propose some additional meaning for the get-passive, though without a conclusive answer.

In this Chapter I have proposed a new analysis that aims to provide a more parsimonious account, uniting the various passive forms via a single common constituent. To achieve this I have postulated a phrasal constituent called a *passive light-verb Phrase*, or *pvP*, which is selected by certain verbs as an argument (in much the same way as an object is selected). The VP within the pvP contains a phonologically null anaphor (PRO) as its object, which raises into the pvP's subject position. This PRO necessarily refers to the preceding DP. The pvP is headed by a null verb, ø. A set of verbs, both mono-transitive and di-transitive, are able to select a pvP argument; *get* and *be* are just two among this set. Neither *get* nor *be* is in fact passive, and neither one is a passive auxiliary, though *be* remains a 'standard' auxiliary, as it is in other constructions. This makes dedicated passive auxiliaries superfluous in my account. I have termed them *passive verbal complements,* or *pvCs*. Under the assumption of a pvP, *be* and *get* (the pvCs) exist outside of the passive segment of a passive sentence. This results in a situation where the motivations underlying the syntactic and semantic differences across these passive forms can be accounted for with the greatest degree of simplicity: the syntactic differences between *be* and *get* in question formation, their requirement or otherwise for do-support, and so-on, are explained by virtue of *get* being a lexical verb and *be* being an auxiliary verb; just as they are in any other context. The structure also makes correct grammatical predictions regarding the insertion of floating quantifiers, as highlighted by Fleisher (2008).

Likewise, the existing semantics of the lexemes *get* and *be* can account for their semantic dissonance when they are used in the passive. As an auxiliary, *be* acts as a simple entailment operator, adding nothing to the meaning beyond a logical relationship. However *get* is a lexical verb with several distinct meanings and numerous sets of connotations, allowing it to communicate far more than a simple entailment.

This analysis identifies two categories of passives: single-object passives, and double-object passives. Within a given category, variation in both syntax and semantics

can be attained through the use of different matrix verbs. That is, within the single-object category, the mono-transitive verbs *get* and *be* can both be used as matrix verbs, selecting the pvP as their object. In the double-object passive category, several di-transitive verbs can be employed as the matrix verb (such as *want*, *need*, etc.), selecting a pvP as one of their two required objects. The resulting structures are in fact active overall, but the presence of a pvP object allows a passive sense to be communicated.

Since this thesis will concentrate on the differences between the be-passive and get-passive, I will briefly summarise what the pvP theory claims about these two forms that differs from existing literature.

Syntactically, the pvP provides structural consistency across all passive forms: a single identical unit appears in all instances; and there is no need for different structures to capture the passiveness in each form. Furthermore, there is structural consistency between passive and non-passive constructions: passives are not derived from actives, rather they are a stand-alone option; also *get* and *be* stand outside of the passive unit, meaning that there is no need to explain their differing syntactic behaviour since it is already explained in general syntactic theory.

Semantically, the passiveness of a sentence comes from the subject being understood as the thematic object of the main verb. In addition, since they are outside of the passive segment of the sentence, the differing semantics of *get* and *be* in the passive comes from the existing semantics of these verbs. This means the get-passive is more flexible than the be-passive, and can, on different occasions, assume many of the various semantic forms suggested in the literature.

This theory is not exhaustive as regards the many features of passive sentences; indeed, at this point it only considers the English language. However, it does provide a new angle from which to view the several passive constructions. It serves to unite them in a far more parsimonious manner than any analysis that has so far been proposed.

Section II
Passive-types and By-phrases

Section II Prelude

It is clear from the literature that opinions differ greatly on the status and purpose of the two passive-types. With so many opposing and incompatible views, the experiments in this Chapter investigate differences between the two pvCs (*get* and *be*) and the inclusion or exclusion an agentive by-phrase.

pvCs

According to the pvP theory (proposed in Chapter 4), the two pvCs (*get* and *be*) exist outside of the passive portion of a sentence. The 'passiveness' is contained within the pvP constituent. This allows the two pvCs to function in the same way that they do in non-passive constructions. That is, *be* is an auxiliary verb, with no semantic content, functioning in a manner similar to a mathematical operator; while *get* is a lexical verb, able to carry a variety of meanings and connotations. This would predict that the two passive-types should not be simply interchangeable. Furthermore, the get-passive should be capable of a greater range of interpretations than the be-passive.

The experiments that follow in this Section are designed to examine this proposed non-equivalence of the two passive-types. To achieve this, each experiment will include a manipulation in which the pvCs alternate across conditions and within items.

By-phrases

Although the pvP theory does not currently make specific predictions about by-phrase inclusion, it would tend to support those theories that most strongly associate be-passives with agentive by-phrases. The logic behind this is that the be-passive, as a logical statement of facts, focuses on the full event. Beyond allowing the Patient to occupy subject position, it does not promote one protagonist over another in the way the get-passive is assumed to.

The experiments in this Section will incorporate a manipulation whereby inclusion and exclusion of agentive by-phrases is rotated across conditions and within items. In experiment 1, when a by-phrase is absent, nothing is put in its place; keeping the manipulation as basic as possible, and maintaining comparability with the study it partially replicates. For experiments 2 and 3, in those cases where a by-phrase is excluded, an alternative adjunct type will be included to minimise differences in sentence length between conditions. In place of the by-phrases, adverbial phrases will be used, adding information such as time or location, and will never begin with the preposition *by*.

Throughout this work the term ‘by-phrase’ should always be construed as referring to an ‘agentive by-phrase’; that is, an optional adjunct introduced using the preposition *by* and containing the Agent of the transitive event. At no further point in this work are other types of by-initial adjunct addressed, nor are they used in experimental materials. This is justified by the fact that other types of by-phrase (such as locative, etc.) are used very rarely with either be-passives or get-passives. Interrogations of two large corpora (BNC and COCA) reveal that, from a random selection of 200 occurrences of full be-passive and 200 occurrences of full get-passive, fewer than 4% of by-phrases were not agentive. These non-agentive by-phrases also tend to have rather constrained collocation. Indeed, locative by-phrases can easily be misinterpreted as being agentive: *He was killed by the lake* has a readily available reading in which the lake is the (non-sentient) cause of the death.

The first experiment (Chapter 5) uses an acceptability rating paradigm, as well as allowing for the suggestion of ‘corrections’ to the sentences. This partly replicates a study by Budwig (1990). The second and third experiments (Chapters 6 and 7) employ a text-change blindness and a syntactic priming paradigm to more implicitly investigate the issues raised above.

Chapter 5: Acceptability of Passive-types and By-phrases (experiment I)

As detailed in Chapter 2, Budwig (1990) conducted a study with 10 child participants and 10 adult participants, looking at acceptability ratings for be-passives and get-passives, with and without by-phrases. Here I aim to replicate and improve on this experiment by using a design that is properly distributed across lists and participants, and by testing a larger number of adult participants.

I hope to use this experiment to discern the relative preference of active-voice, be-passive, and get-passive; the associations between them; and the effects of the inclusion of an agentive by-phrase. Using acceptability ratings allows for a simple measure of relative preference for the forms under consideration. Allowing participants to suggest an alternative investigates active-voice and passive-voice are interpreted as two equivalent versions of the same thing (i.e. transitive event description), and also whether get-passives and be-passives are considered to be interchangeable versions of the passive-voice.

I would expect the highest ratings to be given for active-voice sentences, since that is the most common form, and since the passive-voice in general is discouraged (see discussions in Chapters 2 and 3). Following this logic, be-passives may be rated as more acceptable than get-passives, simply due to their frequency distribution.

With regard to suggested alternatives, both passive-types are likely to have 'corrections' into active-voice for the same reasons as above, with fewer suggestions in the opposite direction. This would suggest that the passive-voice and active-voice are related, but not equivalent. Alternatives may be offered more frequently for get-passives than for be-passives due to the non-canonical status of the former, however, if suggestions are provided in both directions (i.e. *be* to *get*, and *get* to *be*), this would indicate a close relationship between the two forms, as well as a possible interchangeability.

5.1 Design

Two factors were independently manipulated; each at two levels. The first was Passive Verbal Complement (be or get) and the second was By-phrase Inclusion (present/absent). Both manipulations were within-subjects and between-items. The dependent variables were acceptability rating, whether a suggestion was offered, and the nature of suggestions.

5.2 Participants

Eighty native English speakers were tested using an online procedure (50% females). The sessions took approximately 5 minutes to complete. All took part without payment; instead they received my gratitude, which is just as good (if not better). Participants were either undergraduate students at the University of Glasgow, or recruited through the university's subject database.

5.3 Materials

Sixteen items were created (as in 1), with four conditional variants (see Appendix 1 for full list of items). Each consisted of a single sentence in the passive-voice. Verbs were selected that are relatively balanced with regard to their ability to form the passive with both *be* and *get*; 'relatively' balanced since there is always a higher frequency of be-passives, regardless of verb. The sentences used one of the two pvCs (*get* or *be*). This constituted the first manipulated factor; *Passive-Type.*

1) *The minister {was/got} elected by the mayor*
   The minister {was/got} elected

The second manipulated factor was *By-phrase Inclusion:* each sentence either included an agentive by-phrase or did not. This produced a 2 (pvC levels) × 2 (By-phrase levels), between-items design.

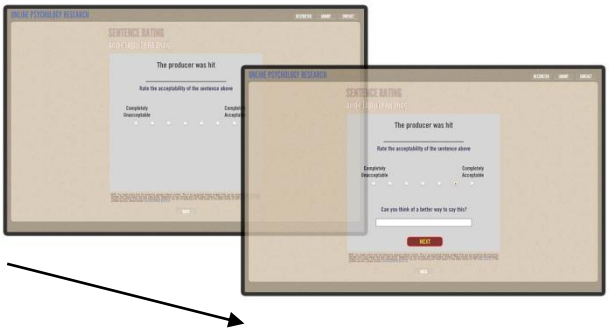
5.4 Procedure

The experiment used a rating paradigm combined with a question allowing a free response. The sixteen materials were arbitrarily divided into two sets of eight items each, creating a between-items design. This was done to minimise the duration of the procedure. Since the experiment was to be carried out online (and unpaid), the files were kept as short as possible to ensure participants would remain motivated and attentive throughout, and would be likely to complete the task. For both sets of materials, the 8 (items) × 4 (conditions) were assigned to four separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the four files, using a Latin square. This resulted in a total of eight files; four files using one half of the items, and four files using the other half of the items. There were two items per condition per file, ensuring an equal frequency of each condition in each file. In addition to the 8 critical items per file, 18 filler materials were also included. These fillers were all in active-voice, were varied

structurally, and included various features to distract participants from the intentions of the study. This gave a total of 26 trials per file.

To take part, participants logged in to the host website and selected this experiment from a list. When registering on the website, data such as age and gender are required, allowing these aspects to be controlled or monitored across the lists. After selecting the experiment, participants were randomly assigned to one of the eight lists. They read the short instructions and used the mouse to click 'next' to continue. Trials proceeded as in (2). A sentence was given at the top of the frame, which participants were asked to rate on the scale provided. The scale had seven unnumbered points, with text labels at each end, giving a range from 'completely unacceptable' to 'completely acceptable'. After selecting a rating, a text field appeared below with the question *Can you think of a better way to say this?* Participants were free to type a suggestion or leave the field blank. Once they had finished, they clicked next to begin the following trial.

2)



At the end of the session there was a brief note thanking them for participation and contact details if they had any questions about the experiment.

5.5 Results

Some data were lost due to technical errors, though this constituted less than 1% of the total. Statistical analyses were based on Generalised Linear Models using Generalised Estimating Equations in SPSS 20.

5.5.1 Acceptability Ratings

I first examined the ratings participants gave to the materials. All ratings were accepted as valid, since there were no participants who consistently chose the same rating for every trial, or used some strategic pattern of rating (such as 3, 4, 5, 3, 4, 5...).

I first explored descriptive statistics for the data, which are summarised in Table 1.

Table 1 Mean ratings for each level of the factors *Passive-type* (be-passive or get-passive) and *By-inclusion* (present or absent).

	By	no By	Total
Be	5.468	5.874	5.671
Get	3.823	4.071	3.947
Total	4.645	4.973	4.809

As Table 1 shows, there appears to be little difference between conditions with a by-phrase and those without, though conditions without a by-phrase received slightly higher ratings overall; i.e. were rated as more acceptable. There is however, a much clearer difference between the two passive-types: get-passives are rated as notably less acceptable than be-passives in general.

In addition, inferential statistics were used to compare the simple effects of passive-type and By-inclusion, as well as the interaction between the two. Since these data were ordinal, a generalised linear model was employed, as it does not assume a normal distribution. A multinomial distribution was assumed with a logit link function. The model was used to predict differences in rating levels as a function of *Passive-type* and *By-inclusion*, as well as the interaction between them. Only subject analysis was possible in this instance, since two sets of items were rotated within two sets of lists (see above).[1] The results of this analysis are summarised in Table 2.

Table 2 Results from *Logit Multinomial GLM* analysis, modelling differences in ratings as a function of *Passive-type* (be-passive or get-passive) and *By-inclusion* (present or absent).

		by subjects	
Effect	***df***	***Likelihood Ratio χ^2***	***P***
Passive-type (P)	1	34.703	*.000
By-inclusion (B)	1	7.384	*.007
P × B	1	.383	.536

[1] It should be noted that, when considering the two sets of lists separately, the results of the separate analyses were consistent with those of the combined analysis presented in Table 2.

As indicated by Table 2, both experimental factors produced clear main effects, though there was no interaction between the two. Ratings were reliably increased (more acceptable) when the passive-type was *be* as opposed to *get*. The exclusion of a by-phrase also resulted in reliably higher ratings.

5.5.2 Suggestion Likelihood

Following the above, I considered the likelihood of suggesting a 'better' way of saying each sentence. For this analysis I considered only suggestions that made alterations related to voice; that is, changed between the three variants: active, be-passive, and get-passive. Other types of changes were ignored in this stage of analysis, such as changing the verb. Less than 10% of suggestions were not voice-related changes.

These data were binary (either a suggestion was given, or was not), therefore a binomial distribution and logit link function were used. To investigate whether effects can be generalized across both subjects and items, two types of *Logit Binomial GEE* analysis were carried out: the first took *Passive-type* and *By-inclusion* as within-*subject* factors, while the second took *Passive-type* and *By-inclusion* as within-*item* factors. This produced a 2×2 design. The model was used to predict likelihood of providing an alternative as a function of *Passive-type* and *By-inclusion*, as well as the interaction between them. Table 3 summarises these results.

Table 3 Results from *Logit Binomial GEE* analyses, predicting the likelihood of providing an alternative by factor combinations of *Passive-type* (be-passive or get-passive) and *By-inclusion* (present or absent).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type (P)	1	57.656	*.000	14.517	*.000
By-inclusion (B)	1	16.436	*.000	9.448	*.002
P × B	1	8.125	*.004	7.523	*.006

Table 3 indicates that both factors produced significant main effects, as well as a significant interaction. Participants were significantly more likely to suggest a 'better' phrasing in the get-passive conditions (.75) than in the be-passive conditions (.13). Suggestions were also offered reliably more often when a by-phrase was present (.52) compared to when a by-phrase was not present (.30).

The interaction is illustrated in Figure 1. With a be-passive, suggestions were reliably more likely to be given in the presence of a by-phrase; in the case of get-passives, suggestions were also descriptively higher with a by-phrase, though this difference was not significant.

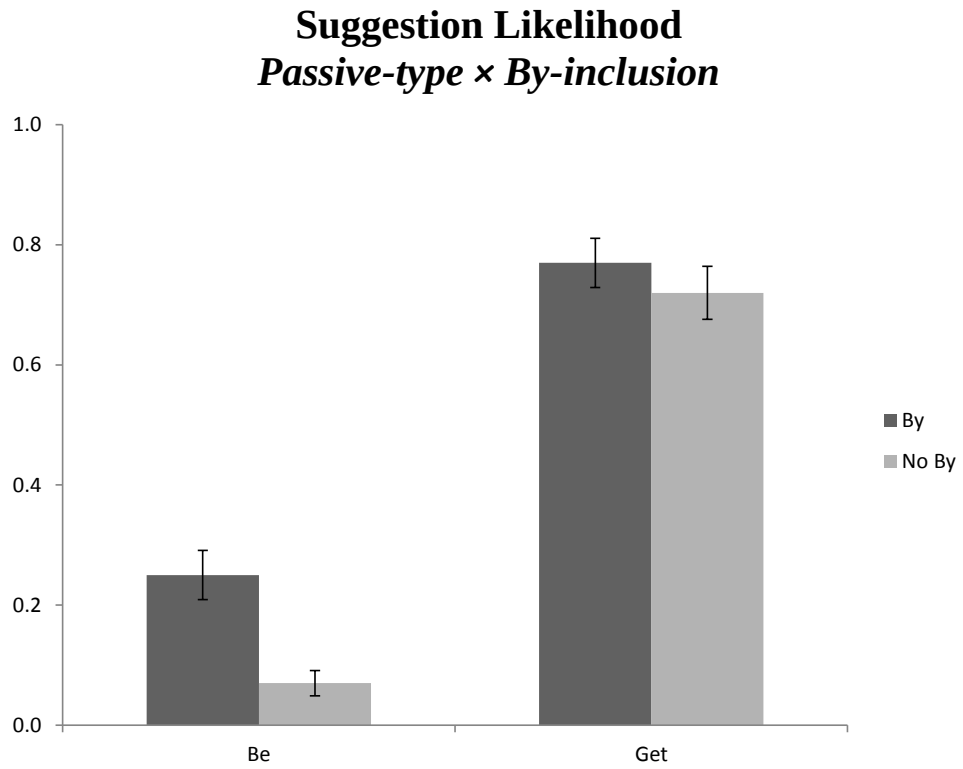


Figure (1) Mean likelihood of providing a suggestion
Error bars refer to 95% CIs for the mean

5.5.3 Suggestion Level

For the final stage of analysis I considered the nature of the suggestions that were given. The free responses were coded as either Active, Be-passive, or Get-passive; responses that did not fit into these categories were coded as errors and not considered subsequently. Responses other than voice variants constituted less than 10% of the data.

Cross-tabulation was used to descriptively explore the data, giving counts of each possible suggestion level (active, be-passive, or get-passive) for each of the four conditions. The results of this analysis are summarised in Table 4. Percentages given in parentheses refer to within-condition distribution.

Table 4 Results of cross-tabulation, giving raw counts, with percentages in parentheses, of suggestion levels (active, be-passive, and get-passive) for each condition (be-passive or get-passive, with or without by-phrase)

		Active	Be-passive	Get-passive	Total
Be	By	39 (100%)	0 (0%)	0 (0%)	39 (14%)
	no By	8 (80%)	0 (0%)	2 (20%)	10 (4%)
Get	By	34 (28%)	87 (72%)	0 (0%)	121 (43%)
	no By	4 (4%)	105 (96%)	0 (0%)	109 (39%)
Total		85 (30%)	192 (69%)	2 (1%)	279 (100%)

It is clear from Table 4 that the most likely suggested alternative was be-passive, with all of these being suggested as improvements in get-passive conditions. While the raw number of 'corrections' into active-voice were comparable between be-passive and get-passive, they constituted almost 100% of 'corrections' in be-passive conditions, yet only accounted for less than a third of the 'corrections' in get-passive conditions.

Furthermore, suggestions of active-voice are considerably more frequent when a by-phrase is present. Regarding get-passives, when there is no by-phrase, almost all are changed to be-passives; when there is a by-phrase, while the raw number of 'corrections' remains the same, they become distributed between active-voice and be-passive. In the case of be-passives, when there is no by-phrase, very few corrections are given, with most being into active; when a by-phrase is included, this number notably increases, with all corrections being into active-voice.

5.6 Discussion

This experiment employed a rating paradigm, combined with a free-response, as a partial replication of a study by Budwig (1990). The aim was to examine passive-type preference and associations between active-voice, be-passive, and get-passive. A further aim was to improve on Budwig's study: while her study tested only 10 adult participants, this study was conducted with 80 participants. In addition, and in contrast to Budwig, items and conditions were fully rotated such that each item appeared precisely once per file, and in a different condition in each of the four files.

The first task in the study was to rate the acceptability of passive sentences. After each rating, participants were given the option of suggesting a 'better' way of saying the same thing.

Overall, get-passive were given far lower ratings than be-passives. Get-passives were also significantly more likely to elicit a suggested alternative. This confirms theoretical and corpus studies that hold *get* as the dispreferred form. But more than this, these data indicate that the get-passive is viewed as less acceptable in general compared to the canonical be-passive. Indeed, when corrections are offered in regard to get-passives, they are overwhelmingly corrected to be-passives, rather than active-voice. Be-passives, on the other hand, were almost exclusively corrected to active-voice. This implies that get-passives are considered to be inferior versions of the more 'correct' be-passive, rather than as a simple alternative; at least in situations allowing heavy self-editing, such as written language. These responses may reflect the proposed competence-performance distinction (Chomsky, 1965). That is, participants have an ideal representation in their minds, which the relatively unspontaneous nature of written language allows them to access; while in spontaneous spoken language, participants may not produce the 'ideal' that they subjectively report.

Ratings were significantly lower in the presence of a by-phrase. The reason for this is not immediately evident; however corpus counts show a preference for truncated rather than full passives. While this could be interpreted as an effect of length, it is also somewhat compatible with the findings of Fox & Grodzinsky (1998), who found that children had more difficulty correctly interpreting passives when a by-phrase was included. Furthermore, in the present study, passives that included a by-phrase were more likely to be given a suggested alternative. This is motivated primarily through be-passive corrections: when combined with a get-passive, frequency of suggestions was not significantly different depending on by-inclusion, while in conjunction with a be-passive, suggestion likelihood was reliably higher with a by-phrase. This interaction suggests that preference for passives without a by-phrase is not simply due to sentence length, but rather relates (at least partially) to passive-type.

Looking at the type of suggestions given, there is an indication of why suggestions should be more common when a by-phrase is present. Get-passives are primarily corrected into be-passives, with a small number corrected into active-voice, though only those get-passives that have a by-phrase. Be-passives are consistently converted into actives; again the majority of these having by-phrases. The simple explanation for this is that it is easier

to form an active-voice counterpart when both protagonists are given. In the absence of a by-phrase, an agent must be imagined or assumed, and at least referred to in an impersonal way, such as 'someone'. Perhaps this affected the ratings for sentences that included a by-phrase due to some forward planning; with no easy alternative, a lower rating is given.

The data discussed in this Chapter serves to confirm the patterns shown in Budwig's (1990) study, in which get-passives are generally corrected into be-passives, while be-passives tend to be corrected into active-voice. This establishes a hierarchy of the three variants; one that correlates with their relative frequency, as outlined in the corpus literature in Chapter 2.

Further to this, these data indicate a preference for passives without a by-phrase. This is likely related to the function of passives (see, for example, Keenan & Dryer, 2006), which serve as a method of focussing the Patient: the inclusion of an agentive by-phrase goes some way to cancelling out the Patient focus.

This experiment, being in written form, allowed participants to self-edit their responses. This could, at least in theory, allow them to produce answers that they believe are 'expected' in grammarian terms. For example, rating get-passives lower than be-passives due to an imposed view of correctness, regardless of whether it is a true reflection of their own view or, more importantly, their own usage.

Chapter 6: Equivalence of Passive-types (experiment 2)

The previous experiment examined passive-type preferences and their connections with by-phrase inclusion. However, due to being conducted through written language, and with explicit instructions to pass judgement, it left open the possibility that participants self-corrected to some idealised form, in the vein of the competence-performance distinction (Chomsky, 1965); that is, they changed their responses to match some proscriptive 'correct' form. To address this, the experiment in this Chapter uses a more implicit measure, based on a reading task involving spoken responses. This allows participants' performance to be separated from their subjectively reported competence.

The primary purpose of this experiment was again to examine how the two pvCs (*be* and *get*) relate to one another, and how they relate to the optional agentive by-phrase. The manipulations were as in experiment one: passive sentences were formed either with be or get, and either did or did not include a by-phrase. In this instance however, an alternative adjunct was included when a by-phrase was absent, as detailed below.

A version of the 'text-change blindness' paradigm was utilised. It has been previously found that participants are more likely to detect a change between two presentations of text when the word in the original display is semantically unrelated to the new word in the secondary display (Sanford & Sturt, 2002). The present study had an important additional dimension: detection was performed on-line (see below), allowing reaction times to be monitored during the detection phase. These on-line reactions can be used to more precisely analyse when detection occurs, or where processing difficulties arise.

If the two passive-types are interpreted as semantically equivalent, then there should be no significant rate of change detection, regardless of the direction of change. If get-passives and be-passives are not equivalent, change detection may be greater in one direction than the other, implying that one of the forms entails the other.

The inclusion of a by-phrase may promote overall detection, as it increases the event representation (by adding a further protagonist) and serves to reinforce that the sentence is indeed a passive. In addition, if there is variation in change detection dependent on the direction of change, the inclusion of a by-phrase may serve to intensify the difference, due to the fact by-phrases occur more frequently with be-passives than with get-passives (see Chapter 2).

6.1 Design

Two factors were independently manipulated; each at two levels. The first was Change Direction (Be to Get/Get to Be) and the second was Adjunct Type (by-phrase/adverbial phrase). Both manipulations were within-subjects and within-items. The dependent variables were probability of change detection, and response time.

6.2 Participants

Forty native English speakers aged 17-40 years (62.5% females) were tested in individual sessions, each lasting approximately 30 minutes. They all received subject payment or course credits for their participation. All participants were either undergraduate students at the University of Glasgow, or recruited through the university's subject database.

6.3 Materials

Twenty-four sets of materials were created (as in 1), each having four conditional variants (see Appendix 2 for full item list). Each item was three sentences in length. The middle sentence contained a description of a transitive event using one of the passive verbs (*get* or *be*). Each trial consisted of an initial text display, which was presented to the participants in its entirety, and a secondary text, which was presented one word at a time. Between the initial text and secondary text presentation, the passive verb changed, either from *was* to *got* (be>get change) or from *got* to *was* (get>be change). This constituted the first manipulated factor; *directionality of change*.

1) *Initial text display*

On John's route to work, he saw a closed road. A pedestrian {*was* / *got*} hit {*by a bus* / *earlier that morning*}. The investigation continued for several days.

Secondary text

On John's route to work, he saw a closed road. A pedestrian {*got* / *was*} hit {*by a bus* / *earlier that morning*}. The investigation continued for several days.

In addition to the directionality of passive verb change, the type of adjunct was also manipulated. The adjunct following the verb was either an agentive by-phrase (e.g. *by the bus*), explicating the agent of the passivized action; or an adverbial phrase (e.g. *earlier that*

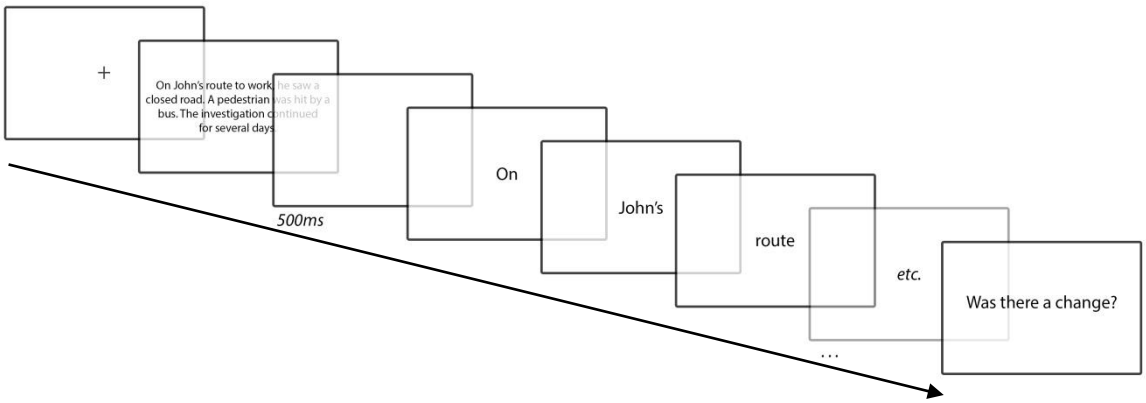
morning), adding temporal, locative, or other supplementary information, but necessarily excluding the agent of the described action. The adjuncts remained the same across the two text presentations; that is, only the passive verb changed and therefore detection of change refers only to a change in the passive verb. All other parts of the sentences remained the same across conditions. This produced a 2 (Change levels) × 2 (Adjunct levels) design.

6.4 Procedure

The experiment used a text-change blindness paradigm. The 24 (items) × 4 (conditions) were assigned to four separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the four files, using a Latin square. This resulted in six items per condition per file, ensuring an equal frequency of each condition in each file. Further to the 24 critical items per file, 48 filler items were also included. Of these, 12 contained a change (mostly of content words), 36 had no change, giving an equal overall frequency of change and non-change trails. The fillers varied structurally with various features to distract participants from the intentions of the study. Fillers also included some structures formed with *get* and *be* wherein neither was the word that changed. This gave a total of 72 trials per file.

The task was presented on a 12" LCD monitor running at 60 frames per second and was run using DMDX. The participants interfaced with the task using a button pad. Two buttons were used throughout the trials to indicate presence or absence of change. Each trial proceeded as in (2), and began with participants being shown a three-sentence paragraph in its entirety, which they read aloud at their own pace. They pressed a button to indicate that they had finished reading. A blank screen was then briefly displayed (500ms), and the word-by-word display of the text began. Participants again read at their own pace. During this second presentation, each word was centred on the screen to eliminate any effect of visuospatial differences caused by word changes. Participants clicked one game pad shoulder-button to advance through the word displays. If at any point they noticed a change, they switched to using the other shoulder-button to advance the word displays. They continued clicking until the end of the trial as a confirmation of their intention to mark a change. At the end of each trial, an additional screen was presented to ask the subject whether they had noticed a change; this allowed them to declare a change regardless of whether they had been able to identify the exact location of the change during word-by-word reading. Affirmative and negative responses were indicated by the same to buttons used in the on-line decision.

2)



The 'change' and 'no change' buttons were programmed in DMDX to produce discretely coded data. To control for any possible effect of handedness, different groups of participants (randomly selected) used either the left or the right shoulder-button as indicating change detection. Response times were also recorded for every button press. Each participant was presented with one of the four files, giving them 72 trials, which were split into 3 blocks, allowing for breaks to maintain attentiveness.

At the end of each session the participants were debriefed and asked if any types of sentence had made changes easier or harder to notice, and whether they had noticed any patterns in the study.

6.5 Results

6.5.1 On-line data - Categorical

First I considered the on-line button presses; that is, the categorical button responses during the self-paced word-by-word presentation. These data were filtered prior to analysis. Using a histogram to inspect the data distribution, on-line response times that were excessively fast (less than 130ms) or slow (more than 3000ms) were eliminated and were not considered further. Less than 2% of data were excluded. The statistical analyses were based on Generalised Linear Models using Generalised Estimating Equations in SPSS 20.

Since these data involve only binary categorical responses, a binomial distribution and logit link function were used to predict likelihood of change detection as a function of *Frame* (8 word positions, from 2 words before the change, until 5 words after), *Change*, *Adjunct*, and all possible interactions between the three factors. Due to the *Frame* measurement being repeated over time within trials, a first-order auto-regressive covariance structure was assumed. To investigate whether effects can be generalized across both subjects and items, two types of *Logit Binomial GEE* analysis were carried out: the

first took *Frame*, *Change*, and *Adjunct* as within-*subject* factors; the second took *Frame*, *Change*, and *Adjunct* as within-*items* factors. This produced an 8×2×2 design. Table 1 summarises the results from these analyses.

Table 1 Results from *Logit Binomial GEE* analyses, predicting the likelihood of change detection by factor combinations of *Frame* (eight individual word positions, from two words before to five words after the passive verb), *Change* (be>get, or get>be), and *Adjunct* (agentive by-phrase, or adverbial).

		by subjects		by items	
Effect	***df***	***GS*** χ^2	***P***	***GS*** χ^2	***P***
Frame (F)	7	154.216	*.000	145.194	*.000
Change (C)	1	.171	.679	.179	.672
Adjunct (A)	1	.317	.573	.226	.635
F × C	7	7.202	.408	19.124	*.008
F × A	7	11.002	.139	10.885	.144
C × A	1	1.417	.234	.206	.650
F × C × A	7	12.104	.097	10.869	.144

As Table 1 indicates, there were some significant effects in the categorical data. The main effect of *Frame* was due to the fact that change detection was very low in the two frame positions before the critical passive verb (less than 5%), increasing at the critical auxiliary itself (around 12%), and was highest in the five frame positions following the passive verb (around 18-24%). The two-way *Frame* × *Change* interaction was significant by items but failed to reach significance in the subject analysis. Descriptives for this interaction are shown in Figure 1. A trend is evident wherein a change from *be* to *get* was more likely to be detected than a change from *get* to *be* in all positions from N+2 onwards.

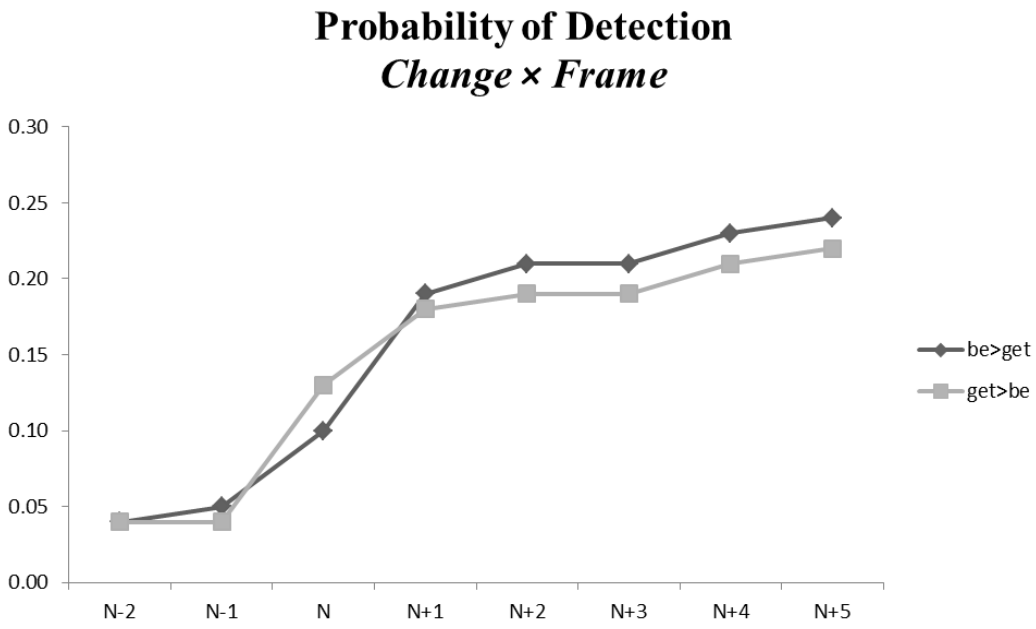


Figure (1) Mean probability of detecting a change across 8 word positions

6.5.2 On-line Data - Response Time

Here I considered the time taken for each button press during the on-line text presentation. As with the categorical, the data for the response time analysis were first filtered to exclude response times that, based on data distribution, were deemed excessively fast (less than 130ms) or slow (more than 3000ms). The statistical analyses were again based on Generalised Linear Models using Generalised Estimating Equations.

Since these data are responses on a continuum, a gamma distribution and identity link function were used to predict response time as a function of *Frame, Change, Adjunct*, and all possible interactions between the three factors. Given that RT distributions tend to be positively skewed, the Gamma distribution provides a better fit of the data than the Normal distribution typically assumed in procedures such as ANOVA. Again, due to the Frame measurement being repeated over time within each trial, an auto-regressive covariance structure was employed. To consider the presence of effects across both subjects and items, two *Gamma Identity GEE* analyses were carried out. The first took *Frame, Change,* and *Adjunct* as within-*subject* factors, while the second took these factors as within-*items*. This produced an 8×2×2 design. Table 2 summarises the results from these analyses.

Table 2 Results from *Gamma Identity GEE* analyses, predicting on-line response times by factor combinations of *Frame* (eight individual word positions, from two words before to five words after the critical auxiliary), *Change* (be>get, or get>be), and *Adjunct* (by-phrase, or adverbial).

		by subjects		by items	
Effect	***df***	***GS χ^2***	***P***	***GS χ^2***	***P***
Frame (F)	7	98.456	*.000	302.768	*.000
Change (C)	1	1.269	.260	.164	.685
Adjunct (A)	1	.729	.393	.403	.526
F × C	7	51.270	*.000	29.745	*.000
F × A	7	34.786	*.000	26.300	*.000
C × A	1	3.234	.072	2.148	.143
F × C × A	7	9.572	.214	20.975	*.004

As can be seen from Table 2, there was a reliable main effect of Frame, indicating systematically different RTs in different word positions. More interestingly, there were reliable two-way interactions between *Frame* and *Change*, and between *Frame* and *Adjunct*. Additionally there is a three-way *Frame* × *Change* × *Adjunct* interaction, however it was only supported by-items, and further decomposition gave no clear picture.

The *Frame* × *Change* interaction is illustrated in Figure 2 and decomposed into simple effects in Table 3. As can be seen, this interaction is due to the fact that RTs are reliably increased at Frame N+1 in response to be>get as opposed to get>be changes (this RT contrast precedes a descriptive corresponding contrast in detection rate by one word position).

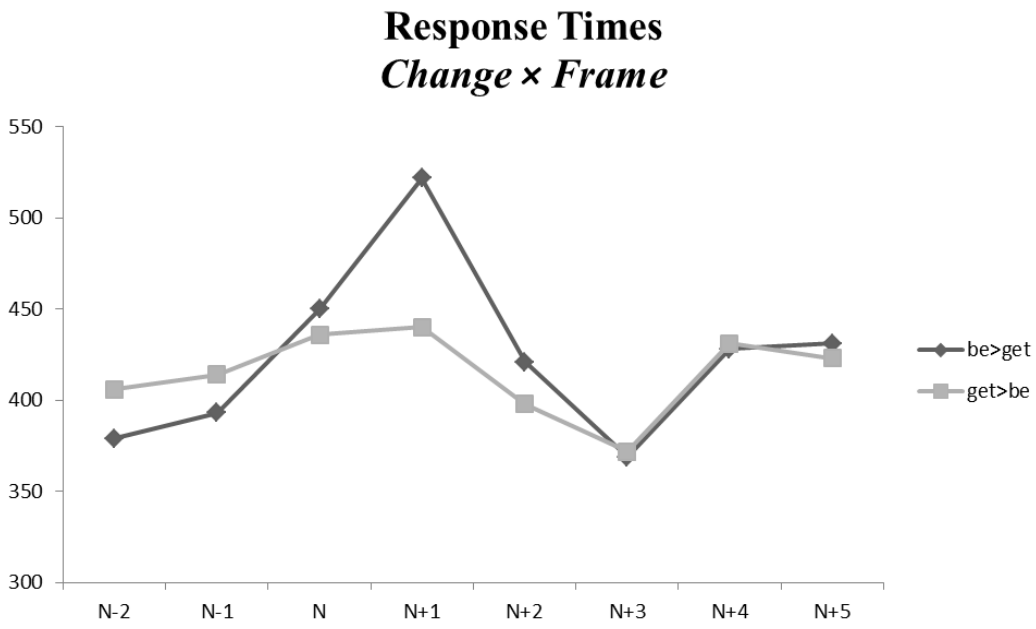


Figure (2) Mean Response Times across 8 word positions

Table 3 Ninety-five percent Wald CIs for the simple effect of *Change* (be>get minus get>be, in ms units) at each Frame position. Significant contrasts are marked with an asterisk.

	Frame Position							
	N−2	N−1	N	N+1	N+2	N+3	N+4	N+5
By Subjects	*−27±20	−21±25	15±50	*81±46	23±29	−3±21	−3±28	8±29
By Items	−27±36	−21±35	15±42	*82±53	23±45	−4±46	−3±49	8±42

The *Frame* × *Adjunct* interaction is illustrated in Figure 3 and decomposed into simple effects in Table 4. This interaction stems from two distinct effects. First, there is the fact that RTs are reliably increased at Frame N (the passive verb itself) in the context of a by-phrase as opposed to an adverbial. Second, an inverse effect is observed at Frame N+3 (one frame after the beginning of the adjunct) whereby RTs are reliably lower when an agentive by-phrase is present as opposed to an adverbial.

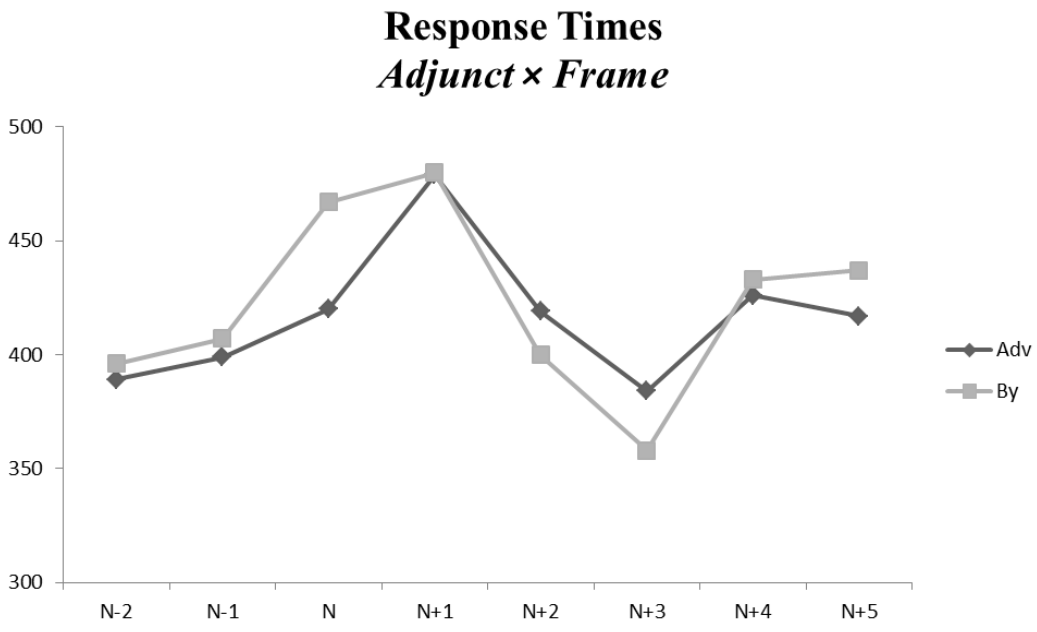


Figure (3) Mean Response Times across 8 word positions

Table 4 Ninety-five percent Wald CIs for the simple effect of *Adjunct* (by-phrase minus adverbial, in ms units) at each Frame position. Significant contrasts are marked with an asterisk

	Frame Position							
	N−2	N−1	N	N+1	N+2	N+3	N+4	N+5
By Subjects	−6±27	−8±21	*−46±31	−1±42	18±26	*25±16	−7±25	−21±39
By Items	−6±21	−8±26	*−46±44	−1±45	18±26	*26±20	−7±40	−21±37

6.5.3 Off-line Data - Categorical

For the final (off-line) decision, the analytical model was set up in the same way as the above analyses, with the exception of the covariance structure. As the Frame measurement here is taken at only one point in time for each trial, an exchangeable covariance structure was used. Table 5 summarises the results from these analyses.

Table 5 Results from *Logit Binomial GEE* analyses, predicting the likelihood of detection by factor combinations of *Change* (be>get, or get>be), and *Adjunct* (by-phrase, or adverbial).

		by subjects		by items	
Effect	***df***	***GS χ^2***	***P***	***GS χ^2***	***P***
Change (C)	1	4.953	*.026	1.735	.188
Adjunct (A)	1	.011	.915	.016	.900
C × A	1	.028	.867	.018	.894

As shown in Table 5, there was a main effect of Change direction. Likelihood of detecting a change was reliably higher when the passive verb changed from *be* to *get*, rather than *get* to *be*. This effect did not reach significance by-items.

6.5.4 Off-line Data - Response Time

In this analysis, I considered the time taken to make the final off-line decision at the end of each trial; that is, the time from the on-screen display of the question (*Was there a change?*) to the button response. The model used to explore the RT data for the off-line decision was set up as in the on-line data, employing a gamma distribution and identity link function. Again, an exchangeable covariance structure was used, since the Frame does not repeat over time within a trial. Table 6 summarises the results of this analysis.

Table 6 Results from *Gamma Identity GEE* analyses, predicting the likelihood of detection by factor combinations of *Change* (be>get, or get>be), and *Adjunct* (by-phrase, or adverbial).

		by subjects		by items	
Effect	***df***	***GS χ^2***	***P***	***GS χ^2***	***P***
Change (C)	1	.103	.748	.036	.849
Adjunct (A)	1	2.775	.096	2.074	.150
C × A	1	6.682	*.010	4.606	*.032

From Table 6 it can be seen that there was an interaction between Change direction and Adjunct type, which was significant both by-subjects and by-items. The interaction is illustrated in Figure 4. As can be seen, this interaction is due to the fact that the type of adjunct has a significant impact on RTs only when the passive verb changes from *get* to *be*, and not when it changes from *be* to *get*.

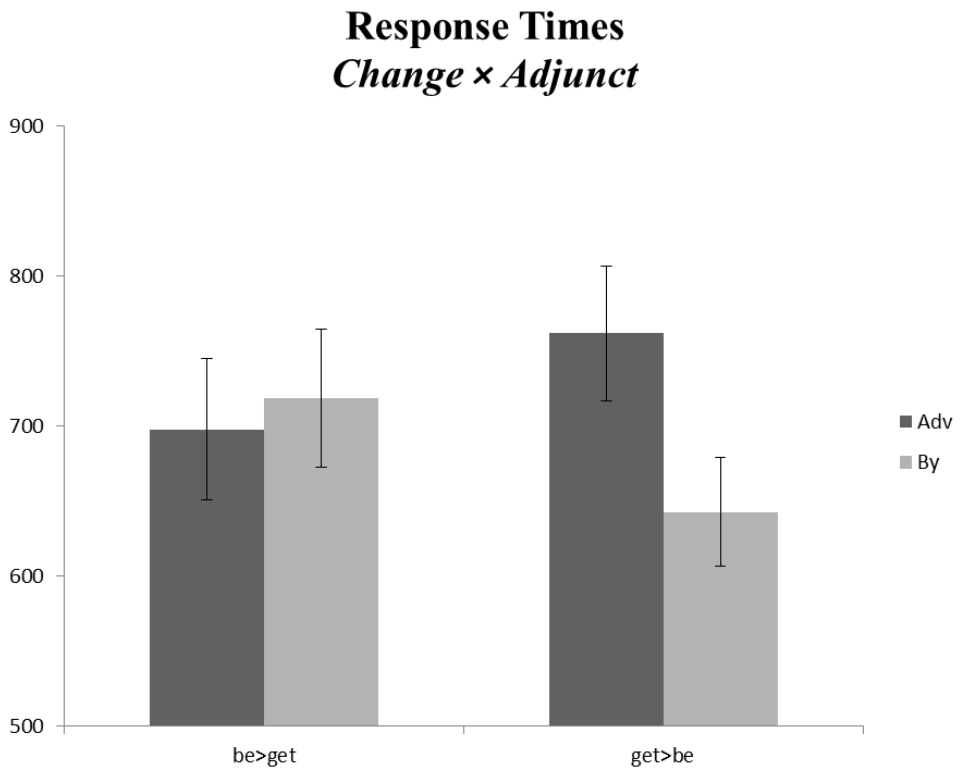


Figure (4) Mean Response Times
Error bars refer to 95% CIs for the mean

6.6 Discussion

This experiment used a text-change blindness paradigm to investigate the two passive verbal complements; *be* and *get*. In experiment 1 (see Chapter 5), get-passives were rated as significantly less acceptable than be-passives. However, since that experiment was conducted with an explicit editing instruction, participants were afforded the opportunity to 'correct' themselves to meet some perceived ideal. The current experiment uses a more implicit measure, and allows investigation of the degree to which the two forms are considered to be different.

Existing theoretical models, as well as corpus data, indicate that get-passives and be-passives correlate differently with the inclusion of an agentive by-phrase (e.g. Collins, 1996; Carter & McCarthy, 1999; Mindt, 2000; Rühleman, 2007; etc.). Following from this, I analysed how adjunct type (by-phrase or adverbial) predicts likelihood of change detection. I also considered how directionality of change (be>get or get>be) might affect change detection.

In general, detection was better overall for changes from be>get than from get>be, as indicated by both categorical on-line and off-line decisions, as well as on-line RTs.

Though the effect in the on-line categorical data is only descriptively present, it is supported by a fully significant effect in on-line RTs. The effect in the RT data precedes the descriptive categorical effect by one Frame position, suggesting that the change is detected earlier than the explicit 'declaration of detection'. It could be argued that the difference in detection may relate to lexical frequency, since *be* is more common in the passive; however the lexemes *be* and *get* are both highly frequent in general. The higher detection of be>get may stem from the canonicity of the be-passive. When participants encounter the canonical passive form in the initial text display, it is not marked; it does not stand out, and no 'repair' is carried out (as in experiment 1). When a get-passive is encountered in the secondary text, its markedness as a non-canonical form makes the change highly salient. Conversely, when the non-canonical get-passive is encountered in the initial text display, it will likely be more salient than a be-passive. As a result, it will undergo 'repair' into the preferred be-passive, as happened in experiment 1. Hence, when a be-passive is encountered in the secondary text, it matches the repaired version of the initial text display, therefore lessening the likelihood of detection. Regardless, this asymmetry would not be expected if passive *get* and *be* were simply interchangeable.

Alternatively, rather than being a matter of preference (as established in experiment 1) or canonicity, this asymmetrical detection may reflect an asymmetrical semantic relationship; specifically a hyponymic relation. That is, the semantic range of the get-passive wholly contains the semantics of the be-passive. Thus, when there is a change from get>be, the initial display contains the semantics of the secondary display, meaning the secondary display provides no new semantics and the change has a lower detection rate. When the change is from be>get, the initial display gives only a part of the semantics of the secondary display, meaning the secondary display has new and different semantics, increasing the rate of detection. This would make passive *be* a hyponym of *get*, which is supported by the pvP theory (Chapter 4): the be-passive is a sterile statement of facts, offering no additional information about the nature of the event or its protagonists, while the get-passive allows a broad semantic interpretation. The basic function of the be-passive can also be performed by the get-passive; hence the former is subsumed into the latter.

It was also observed that, in the presence of an agentive by-phrase, RTs increased significantly at Frame position N (the passive verb), indicating greater processing difficulty. This is potentially due to the fact that the by-phrase introduces an explicit agent; an additional protagonist to integrate into the event representation. This results in a heavier processing load when a change is initially detected; the event representation is more

complex, so it takes longer to confirm that a change has occurred. This seems to concur with child language data presented by Fox & Grodzinsy (1998), in which children were less successful at interpreting passive meaning when a by-phrase was included (see Chapter 2). However, it appears that once this initial delay is overcome, the presence of a by-phrase facilitates onward reading, since RTs become significantly faster than in the adverbial conditions by Frame position N+3. This effect did not interact with change direction in the on-line data, suggesting that the added complexity has a stronger effect than any by-phrase inclusion preference between *be* and *get*.

It was noted, however, that change direction and adjunct type did interact in the off-line data. In the be>get conditions (those where change detection was highest), RTs were not significantly different in the presence of a by-phrase as opposed to an adverbial phrase, though descriptively RTs were quicker with an adverbial. However, in the get>be conditions (those with a lower detection rate), RTs were higher in the context of an adverbial phrase, and lower in the context of a by-phrase. It is possible that these RTs are linked to the passive-type encountered in the secondary text display (the version viewed most recently at the time of making the off-line decision). That is, the RTs reflect the degree to which *get* and *be* each collocate with an agentive by-phrase: when the most recently read passive was formed with *get*, RTs descriptively reflect easier processing in the absence of a by-phrase (having an adverbial phrase in its place). When the most recently read passive was formed with *be*, RTs were significantly slower in the absence of a by-phrase and significantly faster in the presence of a by-phrase, indicating a lesser processing load when a be-passive is *full* (i.e. includes an agentive by-phrase). This is in line with corpus data and various theoretical models. For example Arrese (1999) assigns a low perceived transitivity to the get-passive. Others claim that *get* places some type of focus, in the form of initiative, control, responsibility, etc., on the Patient of the action (Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999), hence the Agent is of less importance and becomes more likely to be dropped entirely. Likewise, as detailed in Chapter 2, various corpus studies note that get-passives are most frequent without a by-phrase (e.g. Collins, 1996; Carter & McCarthy, 1999; Medina, 2009; etc.).

The data from this experiment suggest that the passive forms of *get* and *be* are not synonymous, since the change detection rates were asymmetrical depending on the directionality of change (be>get or get>be). Additionally, the inclusion of an agentive by-phrase appears to add complexity to the event representation, as on-line RTs significantly

increased when a by-phrase was included. Finally, the data appear to support corpus data, as well as theoretical models that point to greater importance or relevance of the Patient over the Agent in get-passives rather than be-passives.

Chapter 7: Discrete Priming of Passive-types (experiment 3)

Following the results of the previous text-change blindness experiment, indicating a difference between passive *get* and *be*, the current experiment was designed to further examine the discreteness of the two passive verbal complements, as well as their relationship with the agentive by-phrase.

A syntactic priming paradigm was employed, similar to that used in Messenger et al. (2008). While that study was conducted with child participants, the present study tested adult language users. Messenger et al. found that both passive-types primed themselves and each other, with a greater rate of self-priming, perhaps due to a lexical boost effect. They also found that get-passives were more common overall in their 3-5 year old participants. Their study did not include a by-phrase manipulation, which is added in the present experiment.

Syntactic priming employs a phenomenon in which speakers are likely to reuse a structure that they have recently heard or used (see, for example, Weiner & Labov, 1983; Bock, 1986). The existence of syntactic priming has been associated with 'residual activation' (e.g. Branigan et al. 1995) and implicit learning (e.g. Bock et al. 2007). Using this paradigm allows the structures of the be-passive and get-passive to be compared. Successful priming from *be* to *get* and vice-versa would suggest a common syntax between the two. The pvP theory proposed in Chapter 4 would predict at least some cross-priming, since part of the passive structure is shared across all passive-types. However, it is notable that the shared portion of the structure in the pvP theory does not contain either *be* or *get*, therefore self-priming is likely to be stronger than cross-priming. If this is the case, then there should be more be-passive responses than get-passive responses after be-passive primes, and vice-versa.

An effect of, or interaction with, the inclusion of a by-phrase would imply a close association between passive-type and by-phrase use. This inclusion of a by-phrase may assist in successful priming, especially in the case of be-passive, since by-phrases occur mostly with be-passives rather than get-passives (see Chapter 2).

Since the experiments in previous chapters have suggested possible self-editing from participants, in the current study responses were elicited either immediately, or after a short delay. If this delay is sufficient to allow self-editing, then it should result in fewer passives overall, i.e. less priming will occur, given enough time to 'override' it.

7.1 Design

Three factors were independently manipulated; each at two levels. The first two manipulations were within-subjects and within-items. (1) Passive Verbal Complement (*be* or *get*) and (2) Adjunct Type (by-phrase/adverbial phrase). The third included manipulation was between-groups; participant responses were either given *at* the described picture (during *encoding*), or *after* the picture (during *recall*). The dependent variables were probability of using passive-voice, probability of be-passive or get-passive production, and probability of including an agentive by-phrase.

Although there was no explicit baseline condition, fillers were in active-voice and revealed a close-to-ceiling effect of active-voice responses.

7.2 Participants

Forty-eight native English speakers (45.8% males) were tested in individual sessions, each lasting approximately 35 minutes. They all received subject payment or course credits for their participation. All participants were either undergraduate students at University of Glasgow, or recruited through the university's subject database.

7.3 Materials

Twenty-four sets of materials were created (as in 1), each having four conditional variants (see Appendix 3 for full item list). Each item consisted of a prime and a target. The prime was always a single sentence, while the target was a picture of a transitive event.

1) *Prime:* The actor {was/got} arrested {by the officer/at the weekend}

   Target:

Each prime sentence described a transitive event in the passive-voice. The passive verb used was either *be* or *get*. This constituted the first manipulated factor; *passive-type*. The second factor, *adjunct*, was also manipulated at two levels: Each sentence either included an agentive by-phrase or had an adverbial adjunct in its place. This produced a 2 (passive-type levels) × 2 (Adjunct levels) design. The transitive event and the protagonists in the target image were always different from those in the prime. Presentation of the target images was done such that the Patient of the action appeared on the left and the right an equal number of times for each participant. The same items were used for both experimental groups.

7.4 Procedure

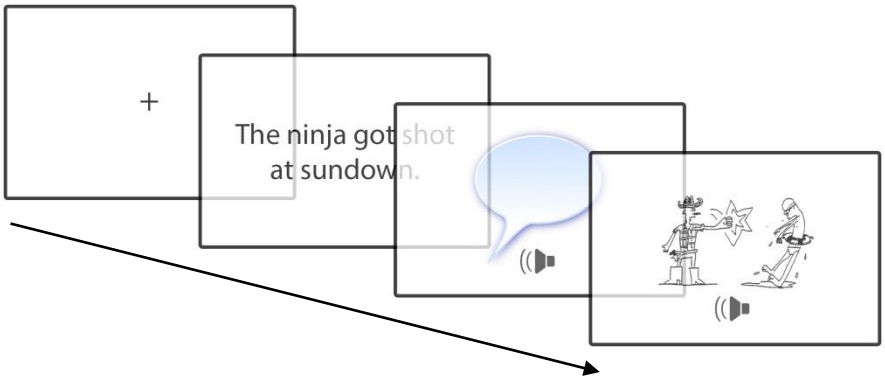
The experiment used a priming paradigm. The 24 (items) x 4 (conditions) were assigned to four separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the four files, using a Latin square. This resulted in six items per condition per file, ensuring an equal frequency of each condition in each file. Further to the 24 critical items per file, 48 filler items were also included. These fillers varied structurally with various features to distract participants from the intentions of the study. This gave a total of 72 trials per file. The four files were used for each experimental group, since the between-groups manipulation was implemented through presentation differences described below.

The task was presented on a 12" LCD monitor running at 60 frames per second and was run using SR Research Experiment Builder. Participants interfaced with the task using

a keyboard. The spacebar was used to advance through trials and to advance from one screen to the next within trials. A short practice session preceded the main experiment to familiarise participants with the characters and events that they would see in the pictures of the experimental trials and fillers. This was done to minimise any lexical frequency effects in the items.

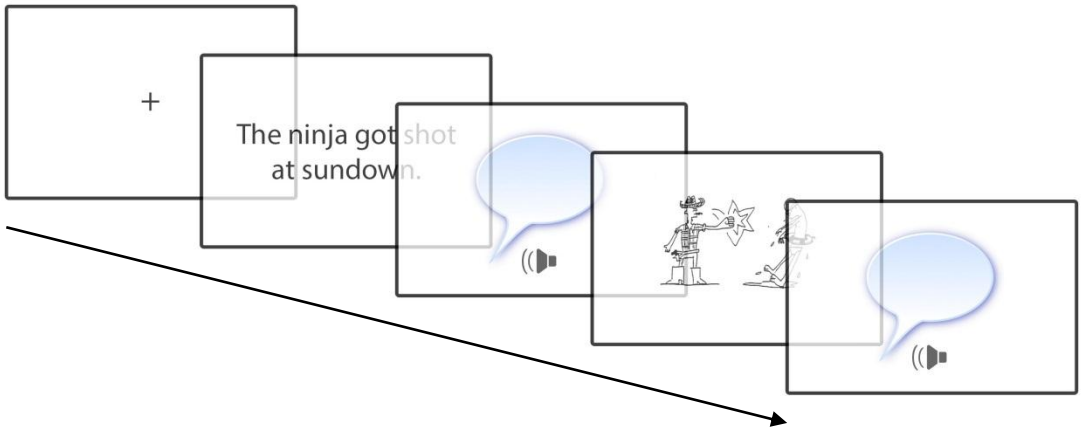
In the at-picture group, each trial proceeded as shown in (2). Trials began with a central fixation cross. The next screen displayed a sentence in the middle of the screen. After reading this, the spacebar advanced to a screen with a speech-bubble prompt. At this prompt, participants repeated the previously read sentence out loud. This was done to ensure deeper processing of the linguistic structure, rather than giving participants the possibility of reading off the screen with only the shallowest processing. The screen that followed displayed a picture and a short 'beep' sound was played simultaneously. This signalled for participants to describe the picture out loud, using a single sentence. After responding, the next trial began.

2)



In the after-picture group, trials proceeded as in (3). All stages were the same, except that, instead of responding while the picture was on-screen, participants viewed the picture, then used the spacebar to advance. The next screen prompted a response both with a speech-bubble and a short 'beep'. After responding, the next trial began.

3)



Participants' spoken responses were audio recorded on the experimenter computer and coded for voice at three levels: *active, be-passive,* or *get-passive*. Passive responses were further coded for by-phrase inclusion (*absent* or *present*). Each participant was presented with one of the four files, giving them 72 trials, which were split into 3 blocks, allowing for breaks to maintain attentiveness.

At the end of each session the participants were debriefed and asked if any types of sentence had made changes easier or harder to notice, and whether they had noticed any patterns in the study.

7.5 Results

Participants who did not produce any passives were discarded. Since the purpose of the experiment concerns selection between alternatives, it was deemed necessary for participants to demonstrate availability of at least two of the alternatives. Further participants were tested to replace those discarded. The data were filtered prior to analysis. Responses that were not transitive were coded as errors and were discarded. Less than 0.5% of data were excluded. Statistical analyses were based on Generalised Linear Models using Generalised Estimating Equations in SPSS 20.

All data in the following analyses were binary. Therefore a binomial distribution and logit link function were used. An exchangeable covariance structure was assumed. In each case, to investigate whether effects can be generalized across both subjects and items, two types of *Logit Binomial GEE* analysis were carried out: the first took *Passive-type* and *Adjunct* as within-*subject* factors and *Group* as a between-subject factor; the second took *Passive-type, Adjunct,* and *Group* as within-*item* factors. This produced a 2×2×2 design for each of the analyses detailed below.

7.5.1 Passive-voice Responses

For this stage of analysis all passive responses (be-passives and get-passives) were combined into a single category. The model was used to predict likelihood of producing a passive-voice response as a function of *Passive-type*, *Adjunct,* and *Group,* and all possible interactions between these factors. Table 1 summarises the results from these analyses.

Table 1 Results from *Logit Binomial GEE* analyses, predicting the likelihood of passive-voice responses by factor combinations of *Passive-type* (be-passive or get-passive in the prime), *Adjunct* (agentive by-phrase or adverbial phrase in the prime), and *Group* (picture description given *at* or *after* the picture).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type (P)	1	4.071	*.044	3.560	(*).059
Adjunct (A)	1	4.593	*.032	5.155	*.023
Group (G)	1	.332	.564	4.252	*.039
P × A	1	.395	.530	.304	.581
P × G	1	2.367	.124	2.084	.149
A × G	1	.596	.440	.440	.507
P × A × G	1	2.153	.142	1.962	.161

As indicated by Table 1, there were several significant effects in the data. There was a main effect of *Passive-type,* indicating that passive-voice responses were more likely following a be-passive prime (.29±.04) than following a get-passive prime (.24±.03). This was significant by subjects and was close to significance by items. There was also a main effect of *Adjunct*, significant both by subjects and by items, whereby the inclusion of a by-phrase in the prime reliably promoted the use of passive-voice in responses (.29±.04), compared with an adverbial phrase (.24±.03).

The main effect of *Group* indicated that passive-voice responses were more likely in the encoding group (where the description was given *at* the picture) (.29±.05) rather than the recall group (descriptions given *after* the picture) (.25±.04); however this was only significant by items.

7.5.2 Be-passive Responses

In this analysis I considered the production of be-passives out of all valid responses (be-passives, get-passives, and active-voice). The model was used to predict likelihood of

producing a be-passive response as a function of *Passive-type, Adjunct,* and *Group,* and all possible interactions between these factors. Table 2 summarises these results.

Table 2 Results from *Logit Binomial GEE* analyses, predicting the likelihood of be-passive responses by factor combinations of *Passive-type* (be-passive or get-passive in the prime), *Adjunct* (agentive by-phrase or adverbial phrase in the prime), and *Group* (picture description given *at* or *after* the picture).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type (P)	1	11.315	*.001	10.780	*.001
Adjunct (A)	1	4.805	*.028	3.893	*.048
Group (G)	1	.095	.758	1.073	.300
P × A	1	.109	.741	.062	.804
P × G	1	.333	.564	.204	.651
A × G	1	.365	.546	.241	.624
P × A × G	1	5.018	*.025	3.919	*.048

Table 2 clearly shows significant effects in the data (see also Figure 1). The main effect of *Passive-type* demonstrated that be-passive responses were reliably increased following be-passive primes (.24±.04) as opposed to get-passive primes (.17±.03). There was also a main effect of *Adjunct*, whereby be-passive responses were significantly more likely when the prime included a by-phrase (.23±.03) as compared to an adverbial phrase (.18±.03).

There was also a significant three-way interaction between *Passive-type, Adjunct,* and *Group*. This interaction is difficult to interpret; it is illustrated in Figure 1. In the encoding *Group* (description *at* the picture), when the prime did not include a by-phrase, *Passive-type* had no effect on the likelihood of be-passive responses; when the prime did include a by-phrase, *Passive-type* did have an effect, whereby be-passives were more likely after be-passive primes rather than get-passive primes. In the recall *Group* (description *after* the picture) the opposite situation is observed: when the prime did include a by-phrase, *Passive-type* had no effect; when the prime did not include a by-phrase, *Passive-type* did have an effect, whereby be-passives were more likely after be-passive primes rather than get-passive primes.

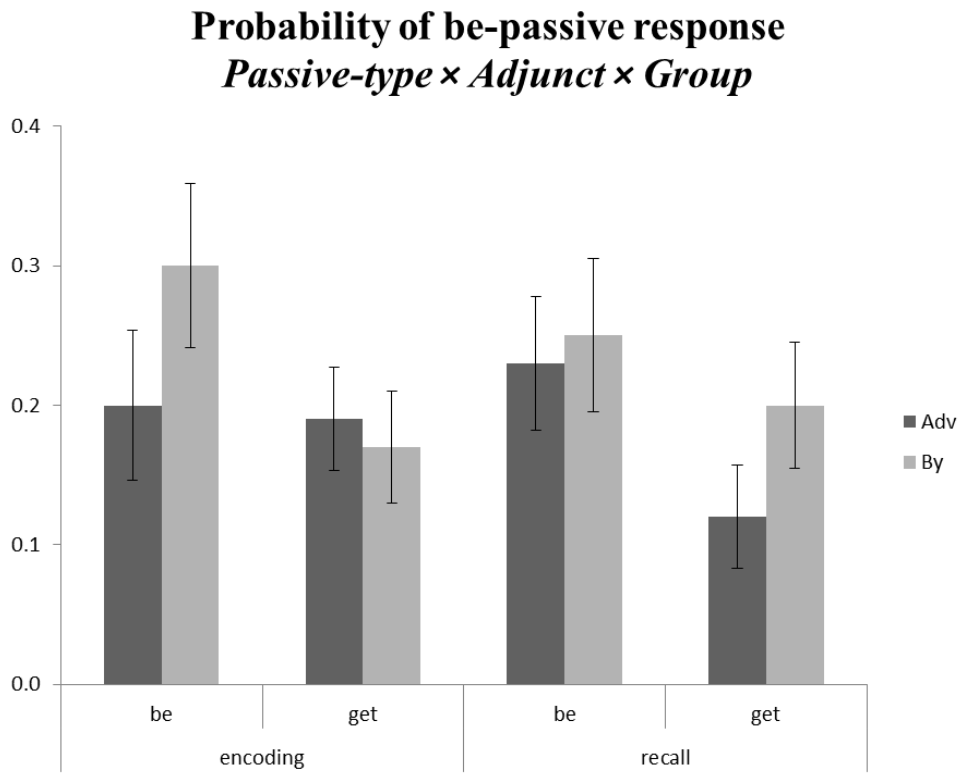


Figure (1) Mean likelihood of be-passive response

Error bars refer to 95% CIs for the mean

7.5.3 Get-passive Responses

This analysis considered the production of get-passives out of all valid responses (be-passives, get-passives, and active-voice). The model was used to predict likelihood of producing a get-passive response as a function of *Passive-type*, *Adjunct*, and *Group*, and all possible interactions between these factors. Table 3 summarises these results.

Table 3 Results from *Logit Binomial GEE* analyses, predicting the likelihood of get-passive responses by factor combinations of *Passive-type* (be-passive or get-passive in the prime), *Adjunct* (agentive by-phrase or adverbial phrase in the prime), and *Group* (picture description given *at* or *after* the picture).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type (P)	1	3.469	.063	3.787	(*).052
Adjunct (A)	1	.016	.900	.013	.911
Group (G)	1	1.728	.189	3.968	*.046
P × A	1	1.919	.166	1.496	.221
P × G	1	5.333	*.021	10.112	*.001
A × G	1	.000	.997	.000	.997
P × A × G	1	.044	.834	.040	.841

As Table 3 indicates, there were several effects in the data. There were two main effects, though they only reached significance by items. The first was a main effect of *Passive-type*, whereby get-passive responses were more likely after get-passive primes (.07±.01) as opposed to after be-passive primes (.04±.01). The second main effect indicates that get-passive responses were more likely in the encoding group (where the description was given *at* the picture) (.07±.01) than in the recall group (descriptions given *after* the picture) (.04±.01).

There was also an interaction between *Passive-type* and *Group*, which reached significance both by subjects and by items. This interaction is illustrated in Figure 2. In the encoding *Group* (descriptions *at* the picture), the *Passive-type* in the prime had no effect on get-passive production. In the recall *Group* (descriptions *after* the picture), *Passive-type* did have an effect, whereby get-passive responses were reduced after a be-passive prime rather than a get-passive prime.

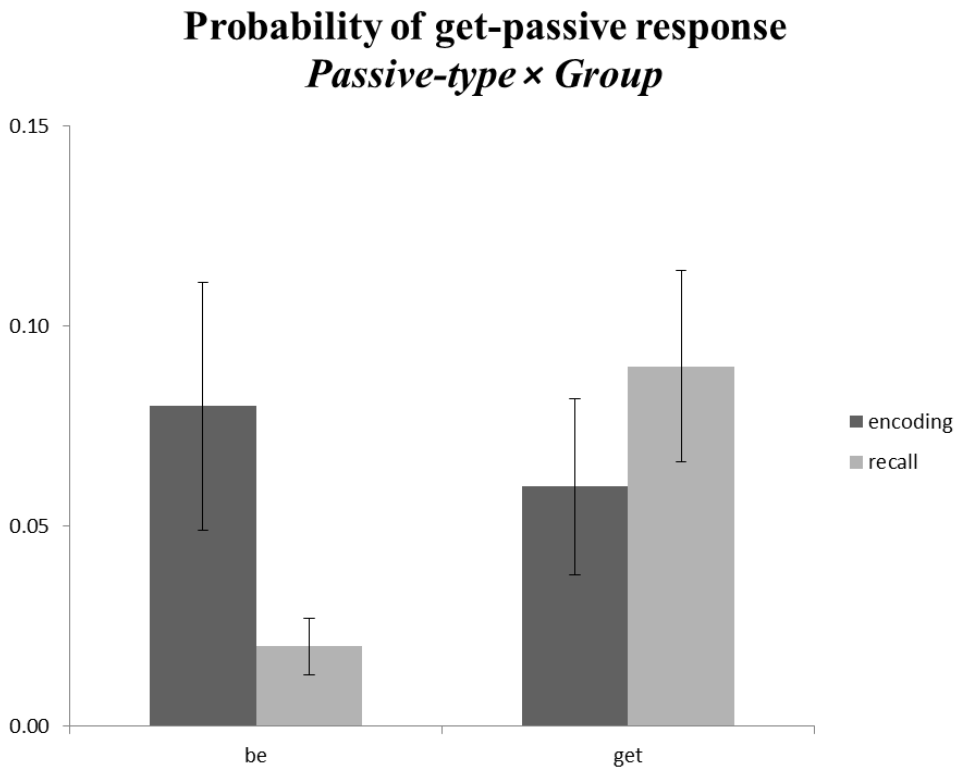


Figure (2) Mean likelihood of get-passive response
Error bars refer to 95% CIs for the mean

7.5.4 Inclusion of by-phrase in Response

The final analysis considered the use of by-phrases in participant responses. The model was used to predict the likelihood of including an agentive by-phrase in passive responses as a function of *Passive-type*, *Adjunct*, and *Group*, and all possible interactions between these factors. Table 4 summarises these results. This model failed to converge when assuming an exchangeable covariance structure, most likely due to an imbalance introduced by the fact that only a subset of responses could actually include a by-phrase. As a result, an independent covariance structure was assumed.

Table 4 Results from *Logit Binomial GEE* analyses, predicting the likelihood of by-phrase inclusion in responses by factor combinations of *Passive-type* (be-passive or get-passive in the prime), *Adjunct* (agentive by-phrase or adverbial phrase in the prime), and *Group* (picture description given *at* or *after* the picture).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type (P)	1	1.930	.165	1.079	.299
Adjunct (A)	1	6.723	*.010	2.218	.136
Group (G)	1	.596	.440	1.719	.190
P × A	1	4.374	*.036	2.039	.153
P × G	1	3.786	(*).052	3.001	.083
A × G	1	4.993	*.025	4.358	*.037
P × A × G	1	4.026	*.045	2.987	.084

As shown by Table 4, there were several significant effects, though only one of these reached significance both by subjects and by items. The effects that were significant by subjects only are unlikely to be reliable, especially given the imbalance in the design and the fact that the dependant variable here (by-phrase inclusion) is itself dependant on the production of a passive-voice response. The only effect that was significant by subjects and by items was an interaction between *Adjunct* and *Group*: in the encoding *Group* (description *at* the picture), by-phrase inclusion was more likely when there was an adverbial (no by-phrase) in the prime (1.0±.00) as opposed to a by-phrase (.86±.06); in the recall *Group* (description *after* the picture), by-phrase inclusion was more likely when there was a by-phrase in the prime (.91±.04), as opposed to an adverbial in the prime (.89±.06).

Further to the above, I also considered the likelihood of including a by-phrase in the response as a function of the passive-type used in the response. Table 5 summarises the results.

Table 5 Results from *Logit Binomial GEE* analyses, predicting the likelihood of by-phrase inclusion in responses by *Passive-type of Response* (be-passive or get-passive response).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Passive-type in Response	1	2.321	.128	9.339	*.002

As shown in Table 5, there was a main effect of *Passive-type in the Response*, in which by-phrase inclusion was reliably more likely when combined with a be-passive response than with a get-passive response. This effect was significant by items, though it failed to reach significance by subjects.

7.6 Discussion

For this experiment I used a syntactic priming paradigm to investigate possible structural differences between the two passive-types, as well as their relative association with and co-occurrence with agentive by-phrases. If the two passive-types are structurally identical, as claimed by Chomsky (1981), then they should prime each other indiscriminately. I analysed how each of the passive-types and adjunct types (by-phrase or adverbial) prime production of passive-voice versus active-voice; be-passive versus get-passive; and by-phrase inclusion.

Overall, active-voice responses were more likely than passive-voice responses (73 percent and 27 percent, respectively), which is not surprising, since it is well established that active is the canonical form for transitive sentences in English. Nonetheless, there were still several clear priming effects in the data.

First of all, be-passive responses were reliably increased after be-passive primes, while get-passives were reliably increased following get-passive primes. These simple effects of each passive-type could be motivated by a simple lexical repetition of the pvC (as suggested in Messenger et al. 2008). Each passive-type also primed the other (i.e. be-passives primed get-passives, and get-passives primed be-passives), suggesting that there is some structural element shared between them. The proposed pvP theory (see Chapter 4) supports these findings: within the pvP framework, the two pvCs (*get* and *be*) are separate from the passive portion of the sentence, accounting for their self-priming (*be* to *be*, and *get* to *get*); further, the passiveness of all passive sentences is contained within the pvP constituent, accounting for the cross-priming of the two forms (*be* to *get*, and *get* to *be*). That is, a part of their syntactic structures is shared (the pvP), and part of their structures differs (the pvCs: *get* and *be*).

Passive-voice responses (regardless of pvC) were more common after be-passive primes than after get-passive primes, suggesting that ‘passiveness’ is more closely associated with *be* than with *get*. This means that, although there is an effect of pvC repetition, be-passives activate ‘passiveness’ to a greater degree than get-passives do. This may be due to the status of be-passives as the canonical form. It is also supported by the

data from experiment 1, in which get-passives were generally rated as less acceptable than be-passives, and were frequently 'corrected' into be-passives.

Passive-voice responses were most likely after primes that included a by-phrase as opposed to an adverbial phrase. This suggests that having a by-phrase provides a more complete event representation, thus allowing the prime to have a stronger effect. Be-passives were also more likely after primes that included a by-phrase, while this manipulation had no effect on get-passive production. This is in agreement with corpus data and several theoretical approaches that relate the by-phrase most closely to the be-passive (e.g. Arrese, 1999; Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999). Complementing this effect, by-phrase inclusion was most likely in be-passive responses rather than in get-passive responses. This further supports the strength of association between the be-passive and its agentive by-phrase. The majority of participant responses included a by-phrase. This was motivated by an aspect of the experimental design: all pictures displayed a complete transitive event (Agent, Patient, and Action). Because of this, participants were most likely to describe everything they saw in the simple pictures.

There were more passive-voice responses in the encoding *Group* (descriptions at the picture). This appears to be at least partially driven by the fact that get-passives were more frequent in the encoding *Group* rather than the recall *Group,* while the *Group* manipulation did not significantly affect be-passive likelihood. This indicates that the priming effect is not as strong in the case of the get-passive; already beginning to dissipate after the picture display, whereas the priming effect in the case of the be-passive is maintained, at least until the prompt following the picture display. As predicted, fewer passive responses were given following the short delay, though this was not fully significant. Notably, be-passive responses were not affected by the added delay in the recall *Group*, while get-passives were significantly reduced following the delay. This suggests that get-passives are more difficult to prime, which may be related to their general frequency. This may also be partly due to a degree of self-correction by participants; the more time participants have to consider their description, the more likely they are to 'correct' their initial selection of a get-passive into a more preferred or acceptable form; be-passive or active-voice.

Section III
Properties of the Patient

Section III Prelude

The previous Section examined the differences simply between the two passive-types (*be* and *get*), as well as their respective relationships with by-phrase use. Having established a hierarchy of reported acceptability, a possible semantic asymmetry, and differing preference for by-phrase inclusion, I will now move on to more specific factors.

In the literature, several of the features that are suggested to differ between the two passive-types involve the status of the Patient. In this Section I will consider several of these aspects through two separate experiments.

It has been frequently noted that some degree of responsibility is laid on the Patient when using a get-passive rather than a be-passive (Hatcher, 1949; Lakoff, 71; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999; etc.). Some have suggested a rather more complementary distribution between the two passive-types, with the be-passive implying Agent-control, and the get-passive implying Patient-control (Lasnik & Fiengo, 1974; Givon, 1993). This will be the focus of the first experiment in this Section.

More generally, the Patient of the get-passive is viewed as having some greater importance or focus than the Patient of the be-passive. This can either be through the Patient having a more prominent role (Hatcher, 1949), being more affected (Cameron, 1996; Arrese, 1999; Carter & McCarthy, 1999; Sasaki, 1999; Orfitelli, 2011), more responsibility (as above), as well as several other factors (see Chapter 2 for full discussion). This heightened importance of the get-passive's Patient will be examined in the second experiment of this Section.

Chapter 8: Patient Responsibility Through Voice Variation (experiment 4)

I designed the following experiment to investigate a more specific aspect that may separate the passive-types. Several theories have proposed that the get-passive communicates a degree of responsibility on the part of the Patient that is absent from the be-passive (e.g. Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Arrese, 1997; Sasaki, 1999).

To investigate this attribute of the passive Patient, a rating paradigm was used, allowing an explicit measure of perceived responsibility. Since there are opposing views on the association of get-passives with negative events, verbs communicating both positive and negative valence are included in the design.

If the get-passive communicates Patient responsibility, and the be-passive does not, then responsibility ratings should be notably higher when events are described via a get-passive. Since both passive-types focus the Patient, at least to the degree of placing it in subject position, while active-voice does not focus the Patient, it would be reasonable to expect that the lowest responsibility ratings would be given for event descriptions in active-voice.

As noted above (and in Chapter 2), discussions concerning the link between get-passive use and negative events are contradictory, making it unclear what effect verb valence will have on ratings of events described using the get-passive. However, 'responsibility' is often framed as 'blame' (again, see Chapter 2 for further discussion); if get-passives favour negative events, this may correlate with additional blame and therefore result in higher responsibility ratings.

8.1 Design

Two factors were independently manipulated. The first, Event Valence, was manipulated at two levels (positive/negative). The second factor, Voice, was manipulated at three levels (active/be-passive/get-passive). Both manipulations were between-subjects. The dependent variable was the scalar indication of perceived responsibility of the event's Patient.

8.2 Participants

Approximately four hundred and forty five native English speakers were tested in several large groups prior to lectures at the University of Glasgow. All took part without payment, receiving instead the satisfaction of furthering a scientific cause. They were free to decline participation. Due to the scale of the groups, information regarding gender and age were not taken, though all were undergraduates of various programmes at the University of Glasgow.

8.3 Materials

Materials were created (as in 1), with six conditional variants (full item list given in Appendix 4). Each consisted of a short story, four sentences in length, with a different story for each condition.

1) *In this city, many people work in office blocks in the centre. One company employed over a hundred people, with one particular office consisting of around forty people. Last week {the management fired a woman/a woman {was/got} fired by the management}. The other employees discussed it during breaks and over lunch.*

The second from last sentence contained a description of a transitive event in either active-voice, passive-voice with *be*, or passive-voice with *get*. This was the first manipulated factor; *Voice*. The story either described a positive event (a person being *rescued*), or a negative event (a person being *fired*). This constituted the second manipulated factor; *Valence*. This produced a 3 (voice levels) × 2 (valence levels) design.

8.4 Procedure

The experiment used a rating paradigm. Copies of the six stories were distributed at random to students in large groups (~150 per group), so that each participant had a single story to read.

The stories were printed on small sheets of paper. The question and scale (as in 2) were given directly below the short story. Participants responded with a mark at any point along the provided scale.

2) To what degree do you feel that the woman was responsible for losing her job?

1 - 2 - 3 - 4 - 5 - 6 - 7
Not very responsible *Completely responsible*

After completion, all papers were collected and results were collated. Participants were able to ask questions immediately or via later email contact if they wished.

8.5 Results

Any papers that were not clearly marked (e.g. multiple marks on the scale) were discarded. Less than 0.5% of the data were lost in this way. Statistical analyses were based on Generalised Linear Models in SPSS 20.

The descriptives for these data are summarised in Table 1.

Table 1 *Estimated Marginal Means*, giving mean scores for each level of the factors *Voice* (active-voice, be-passive, or get-passive) and *Valence* (positive or negative).

	Active-voice	Be-passive	Get-passive	Total
Positive	2.75	2.35	2.56	2.56
Negative	3.49	3.89	3.82	3.72
Total	3.12	3.09	3.17	3.13

As Table 1 indicates, there were no notable differences across *Voice* within each *Valence* level, varying by no more than 0.4 from highest to lowest score. However, there was an apparent difference between the two *Valence* levels: in the negative events, the Patient was consistently judged to be more responsible for the described action.

Further to the above, I used inferential statistics to compare the simple effects of *Valence* and *Voice*, as well as the interaction between the two. Since these data were ordinal, a generalised linear model was employed, as it does not assume a normal distribution. A multinomial distribution was assumed with a logit link function. Overall this model makes rather conservative assumptions. Table 2 summarises the results of this analysis.

Table 2 Results from *Logit Multinomial GLM* analysis, modelling differences in perceived Patient responsibility as a function of *Voice* (active-voice, be-passive, or get-passive) and *Valence* (positive or negative).

		by subjects	
Effect	***df***	***LIKELIHOOD RATIO*** χ^2	***P***
Valence (Va)	1	68.808	*.000
Voice (Vo)	2	.197	.906
Va × Vo	2	5.371	(*).068

As Table 2 indicates, there was a main effect of *Valence*, in which participants were more likely to judge the Patient as responsible for the action when the event was negative, as opposed to when the event was positive. In addition, the interaction between *Valence* and *Voice* was approaching significance. This reflects the fact that in the negative condition, *be* and *get* are very closely matched, both resulting in the highest perceived Patient responsibility, with *active-voice* yielding the lowest; in the positive condition, *be* elicited the lowest perceived Patient responsibility, followed by *get*, and then *active* with the highest.

8.6 Discussion

This experiment employed a rating task to consider how transitive description using the two passive-types (*get* and *be*), as well as active-voice, predict differences in perceived Patient responsibility. As noted above, there are a number of theories that claim Patient responsibility is emphasised in the get-passive (e.g. Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Arrese, 1997; Sasaki, 1999). My pvP theory (see Chapter 4) is compatible with these approaches, since it allows (and expects) greater semantic flexibility of the get-passive over the be-passive.

There was no effect of *Voice* on the Patient responsibility scores. This could be due to the effect being too subtle for this type of paradigm to capture. However, *Valence* did show a clear effect, with negative conditions seeing the highest perceived Patient responsibility. This suggests that participants may have assigned responsibility based largely on the semantics of the main verbs used in the descriptions, as opposed to taking cues from the specific construction used to report the event. This would support the theoretical claim I made to this effect in the proposal of the pvP; that is, many aspects of

(passive) event semantics are communicated via the main verb, since the two pvCs (*be* and *get*) are outside of the passive-containing portion of the structure; the pvP unit.

If the responsibility assigned to the Patient is influenced more by features of the main verb, rather than the passive-type used, then the relatively common suggestion that get-passives describe negative outcomes (see Chapter 2), should be interpreted specifically as get-passives collocating with negative verbs.

Chapter 9: Patient Focus and Information Status (experiment 5)

This experiment further investigates specific aspects of the Patient in the two passive-types (*get* and *be*). Here I used a paraphrasing paradigm to consider the relative effects of information status and Patient focus on the production of the two passive-types. Some theories have suggested that, while be-passives focus the Patient (due to it appearing in subject position), get-passives place an even greater focus on the Patient over the Agent. This can be due to a lower perceived transitivity in the get-passive (e.g. Arrese, 1999); due to the Agent of a get-passive having a subordinate role (Hatcher, 1949); or due to higher subject affectedness in the get-passive (e.g. Sasaki, 1999; Orfitelli, 2011; etc.). Further to this, the pvP theory (Chapter 4) predicts that focus on the Patient would promote the use of get-passives. This stems from *get* being a lexical verb that can communicate a variety of additional meanings that are not available to the be-passive, since *be* is only an auxiliary verb, therefore having no semantics beyond a basic functional operation.

To investigate this, a paraphrasing paradigm was used. The studies closest to this found in the literature are those by Meints (2003), who ran two studies with young children. The children watched events acted out with toys, or experienced the actions themselves, and were asked to describe the event (see Chapter 2 for further details). Since the present study tested adult participants, simple pictures were used in place of the events being acted out.

When the Patient is given (is the on-going topic), the use of passives should increase overall. This is because the topical entity is likely to be maintained as the topic of a paraphrase, which in turn promotes the use of passive as the most frequent construction allowing the Patient to appear in sentence-initial position (see Chapter 2 for discussion). As be-passives are the most common passive-type, this Patient givenness may increase the proportion of be-passive paraphrases.

Many theories suggest that get-passives are linked to some type of Patient focus, for example, in terms of control, involvement, affectedness, etc. (see Chapter 2). From this I would predict an increase in the frequency of get-passive paraphrases when the Patient is in focus, as opposed to when the Agent is in focus.

9.1 Design

Two factors were independently manipulated; each at two levels. The first was Information Status (given/new), and the second was Focus (agent/patient). Both manipulations were within-subjects and within-items. The dependent variables were probability of using passive-voice; and probability of get-passive use.

9.2 Participants

Twenty-four native English speakers (67% females) were tested in individual sessions, each lasting approximately 30 minutes. They all received subject payment or course credits for their participation. All participants were either undergraduate students at University of Glasgow, or recruited through the university's subject database.

9.3 Materials

Twenty-four sets of materials were created (as in 1), each with four conditional variants (full item list is given in Appendix 5). Each item was two sentences in length. The second sentence described a transitive event, while the first provided a preamble to the event. One of the two protagonists of the event, either the Agent or Patient, was introduced in the first sentence and was therefore *given*; that is, when participants encountered the transitive event description, one of the two protagonists was already known (given), while the other was not previously known (new). This constituted the first manipulated factor; *information status*.

1) *The actor came to the end of a long day on the set*
{It was him who an officer arrested that day/It was an officer who arrested him that day}

The officer began his shift late in the day
{It was an actor who he arrested that day/It was him who arrested an actor that day}

In addition to this, the second sentence featured a cleft containing one of the protagonists; that is, either the Agent or Patient of the transitive event was topicalized. This placed a clear focus on that protagonist and constituted the second manipulated factor; *focus*. The transitive description was always in active-voice; this meant that there could be no priming effect, and any increase in passive production would be motivated by the experimental factors. This produced a 2 (Information Status levels) × 2 (Focus levels) design.

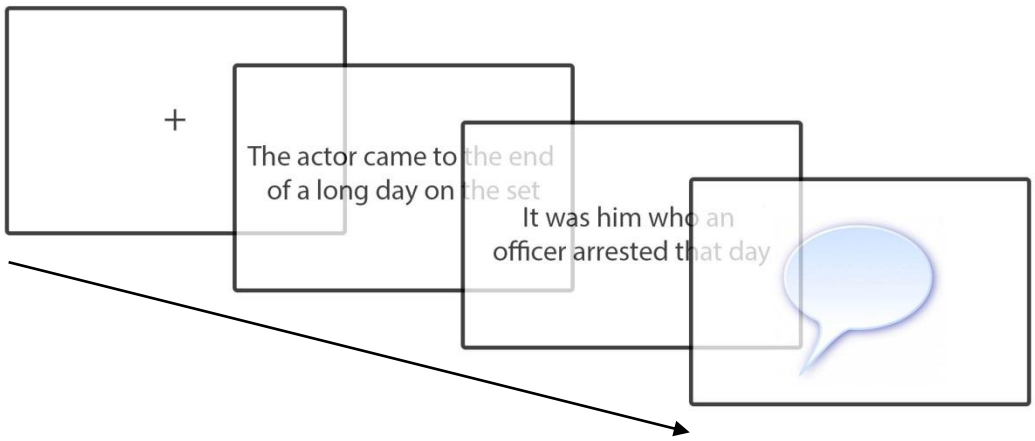
9.4 Procedure

This experiment employed a paraphrasing paradigm. The 24 (items) × 4 (conditions) were assigned to four separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the four files, using a Latin square. This resulted in six items per condition per file, ensuring an equal frequency of each condition in each file. Further to the 24 critical items per file, 50 filler items were also included. These fillers varied structurally with various features to distract participants from the intentions of the study. This gave a total of 74 trials per file.

The task was presented on a 12" LCD monitor running at 60 frames per second and was run using SR Research Experiment Builder. Participants interfaced with the task using a keyboard. The spacebar was used to advance through trials and to advance from one screen to the next within trials. A short practice session preceded the main experiment to familiarise participants with the procedure and type of sentences they would be encountering in the experimental trials and fillers.

Each trial proceeded as shown in (2). Trials began with a central fixation cross. The next screen displayed the preamble sentence in the centre of the screen. After reading this aloud, participants pressed the spacebar to advance. The next screen displayed the transitive event sentence in the centre of the screen, which again was read aloud. After a brief (500ms) pause, the next screen displayed a prompt for participants to retell the event in their own words; i.e. the transitive event described in the second sentence. They responded to this out loud, and then pressed the spacebar to end the trial and begin the next.

2)



Participants' spoken responses were audio recorded on the experimenter computer and coded for voice at three levels: active, be-passive, or get-passive. Passive responses were also coded for whether they included a by-phrase. Each participant was presented

with one of the four files, giving them 74 trials, which were split into 3 blocks, allowing for breaks to maintain attentiveness.

At the end of each session the participants were debriefed and asked if any types of sentence had made changes easier or harder to notice, and whether they had noticed any patterns in the study.

9.5 Results

As this experiment was concerned with the production of syntactic alternatives, it was deemed necessary for participants to demonstrate the availability of at least two forms. Those who did not produce any passive responses were discarded and further participants were tested to replace them. Following this, the data were filtered before analysis. Responses that were not transitive were coded as errors and were discarded. Less than 0.7% of data were excluded. Statistical analyses were based on Generalised Linear Models using Generalised Estimating Equations in SPSS 20.

All data in the following analyses were binary. Therefore a binomial distribution and logit link function were used. An exchangeable covariance structure was assumed. In each case, to investigate whether effects can be generalized across both subjects and items, two types of *Logit Binomial GEE* analysis were carried out: the first took *Information Status* and *Focus* as within-*subject* factors, while the second took *Information Status* and *Focus* as within-*item* factors. This produced a 2×2 design for each of the analyses detailed below.

9.5.1 Passive-voice Responses

For this stage of analysis, all passive responses (be-passives and get-passives) were combined into a single category. The model was used to predict likelihood of producing a passive-voice paraphrase as a function of *Information Status* and *Focus*, as well as the interaction between them. Table 1 summarises the results from these analyses.

Table 1 Results from *Logit Binomial GEE* analyses, predicting the likelihood of passive-voice responses by factor combinations of *Information Status* (given or new) and *Focus* (agent or patient cleft).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Info. Status (I)	1	12.107	*.001	15.242	*.000
Focus (F)	1	2.692	.101	4.164	*.041
I × F	1	.061	.805	.057	.812

As indicated by Table 1, there were some significant effects in the data. There was a main effect of *Information Status*, in which passive-voice paraphrases were reliably more likely when the Patient was given (.61±.05), as opposed to when the Agent was given (.29±.05). There was also a main effect of *Focus*, whereby passive-voice responses were more likely when the Patient was focussed (.48±.03), compared to when the Agent was focussed (.41±.04). However, this effect did not reach significance by subjects.

9.5.2 Be-passive Responses

For this stage of analysis I considered the production of be-passive paraphrases out of all valid responses (active-voice, be-passives and get-passives). The model was used to predict likelihood of producing a be-passive response as a function of *Information Status* and *Focus*, as well as the interaction between them. Table 2 summarises these results.

Table 2 Results from *Logit Binomial GEE* analyses, predicting the likelihood of be-passive responses by factor combinations of *Information Status* (given or new) and *Focus* (agent or patient cleft).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Info. Status (I)	1	11.487	*.001	13.863	*.000
Focus (F)	1	.407	.524	.669	.413
I × F	1	1.065	.302	.658	.417

As indicated by Table 2, there was one significant effect in the data. There was a main effect of *Information Status*, whereby a given Patient reliably increased the likelihood of be-passive paraphrases (.55±.06), as compared to a given Agent (.25±.04). There was no effect of *Focus*.

9.5.3 Get-passive Responses

In this analysis I considered the production of get-passives out of all valid responses (be-passives, get-passives, and active-voice). The model was used to predict likelihood of producing a get-passive response as a function of *Information Status* and *Focus*, as well as the interaction between them. Table 3 summarises these results.

Table 3 Results from *Logit Binomial GEE* analyses, predicting the likelihood of get-passive responses by factor combinations of *Information Status* (given or new) and *Focus* (agent or patient cleft).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Info. Status (I)	1	.564	.453	.441	.507
Focus (F)	1	5.046	*.025	3.115	(*).078
I × F	1	.595	.440	.190	.663

As indicated by Table 3, there was one significant effect in the data. There was a main effect of *Focus*, in which get-passive paraphrases were reliably increased when the Patient was focussed (.07±.02), as opposed to when the Agent was focussed (.03±.01). This effect was approaching significance by items, and was fully significant by subjects. There was no effect of *Information Status*.

9.5.4 By-phrase Inclusion

In this final analysis I considered the use of by-phrases in participant responses. The model was used to predict the likelihood of including an agentive by-phrase in passive responses as a function of *Information Status*, *Focus*, *Passive-type* (whether participants used *be* or *get* to form their passive response), and all possible interactions between these factors. Results are summarised in Table 4.

Table 4 Results from *Logit Binomial GEE* analyses, predicting the likelihood of by-phrase inclusion by factor combinations of *Information Status* (given or new), *Focus* (agent or patient cleft), and *Passive-type* (be or get).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Info. Status (I)	1	2.149	.143	1.836	.175
Focus (F)	1	.639	.424	.172	.679
Passive-type (P)	1	3.105	.078	1.930	.165
I × F	1	3.993	*.046	4.142	*.042
I × P	1	2.914	.088	2.152	.142
F × P	1	.854	.355	.000	.996
I × F × P	1	2.985	.084	3.599	.058

As indicated by Table 4, there was one significant effect in this analysis. There was an interaction between *Information Status* and *Focus*. The probability of by-phrase inclusion was reliably increased when the Agent was both given and focussed (.67±.10), as opposed to when the Agent was given but not focussed (.44±.12), or was focussed but not given (.66±.10). Likewise, the probability of by-phrase inclusion was reliably increased when the Patient was both given and focussed (.77±.07), as compared to when the Patient was only given (.66±.10), or only focussed (.44±.12).

9.6 Discussion

This experiment employed a paraphrasing paradigm to investigate how information status and protagonist focus affect passive production and the choice between the two pvCs (*get* and *be*).

Overall, passive-voice responses were less frequent than active-voice responses. This is not surprising, since active is the canonical form and, although passive-voice examples were included in the practice session, there was no explicit instruction to use the passive. However, there were clear effects as regards the passive use and choice of pvC.

The use of passive-voice in paraphrases increased when the Patient of the action was *given*; that is, the Patient was the topic of the short story. Parallel to this, the use of the passive also increased when the Patient was *focussed*. These results are likely to be mediated by subject-assignment. Topical entities tend to be given a prominent role, as do important entities. In English, the sentential subject is the most prominent role, and the

main structure that allows the Patient to appear in subject position is the passive (see Keenan & Dryer, 2006).

Further to the above, the inclusion of an agentive by-phrase in descriptions was reliably increased when focus and information status agreed; that is, when the Agent was both *focussed* and *given*, or when the Patient was both *focussed* and *given*. This is most likely due to the lack of conflict: the topical protagonist and the focussed protagonist are the same person. This allows a clearer event representation, which in turn facilitates reference to both protagonists.

The most interesting results were the complementary effects observed in regard to be-passive and get-passive production. Production of be-passives increased in response to *Information Status* (given Patient), while *Focus* had no effect. Conversely, get-passives increased in response to *Focus* (focussed Patient), while there was no effect of *Information Status*. This clearly demonstrates that the two pvCs are not merely interchangeable (contrary to Chomsky, 1981; Weiner & Labov, 1998). Even if they overlap in several respects, they each serve separate purposes. The be-passive is used most when the Patient is the discourse topic (i.e. when the Patient is given), regardless of whether it is the Agent or Patient who is in focus. This is likely to be due to the aspects of subject-assignment noted above. When the Patient is the topic, it is assigned to the prominent subject position, and the passive-voice is invoked. When producing the passive, in the absence of additional overriding factors, *be* is the default and most acceptable form. On the other hand, the get-passive is used most frequently when the Patient is marked as important (i.e. when the Patient is focussed), regardless of whether it is the Agent or Patient who is the current discourse topic. This indicates that get-passives can be used to mark Patient importance. This supports various theories, most notably those that claim *get* is associated with adversity (e.g. Chappell, 1980; Sussex, 1982; Siewierska, 1984; Sasaki, 1999; Sawasaki, 2000; McIntyre, 2005). Likewise, the above supports theories of get-passive affectedness (e.g. Cameron, 1996; Arrese, 1999; Sasaki, 1999), since marking a protagonist as affected would tend to put them in focus. This general claim is supported by the pvP theory (Chapter 4). Since the two pvCs (*be* and *get*) are separate from the portion of the structure containing the 'passiveness', they (the pvCs) operate as they do in non-passive constructions. That is, *be* is simply an auxiliary, adding no further meaning to the sentence, and simply allowing the formation of the passive; while *get* is a lexical verb, imbued with the various additional semantics and pragmatics that a lexical verb is capable of communicating.

The most significant aspect of these findings is that be-passives and get-passives have apparently complementary factors influencing their use. While their distribution is not fully complementary, they are certainly not equivalent.

Section IV
Passive-type and Patient Intention

Section IV Prelude

The previous Section investigated how the perception of Patient responsibility could differ depending on the passive-type used. Another aspect closely related to this is the intention of the Patient.

As with Patient responsibility, it is the get-passive that is said to communicate intentionality on the part of the Patient. This has been highlighted in various forms by numerous authors (e.g. Hatcher, 1949; Lakoff, 1971; Lasnik and Fiengo, 1974; Barber, 1975; Sussex, 1982; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999). While responsibility captures an element of blame, regardless of purposefulness, *intention* refers to the Patient's desire for an event to happen or purposeful attempts to cause an event.

This Section presents two experiments that test whether contextually established Patient intention can drive selection of passive-type.

Chapter 10: Intentionality Ratings (Pre-Test for experiments 6 and 7)

The primary experimental factor used in the two main experiments of this Section needed to be manipulated via context. This pre-test was designed to check that the contextual stories planned for use in the subsequent experimental materials would be interpreted as desired. A rating paradigm was employed to investigate this.

I would expect the ratings to clearly indicate the intention of the Patient as either for or against the event, or neutral. There may be individual items that are not as clearly delineated as the majority due to a peculiarity in the verb used or event described. If this is the case, they will be replaced and re-rated.

10.1 Design

A single factor, *Intention*, was manipulated at three levels (for/against/neutral). The manipulation was within-subjects and within-items. The dependent variable was a scalar response indicating perception of patient intention.

10.2 Participants

Thirty native English speakers were tested in individual sessions each lasting approximately 10 minutes. They all received subject payment or course credits for their participation. All participants were either undergraduate students at University of Glasgow, or recruited through the university's subject database.

10.3 Materials

Thirty-six sets of materials were created (as in 1), with three conditional variants. Each consisted of two sentences, followed by a question.

1) {The girl was covered in muck but tried to sneak to her room to avoid a bath /
The girl had been playing with her friends all afternoon and was getting tired /
The girl had been playing in the mud and disliked being so dirty.}

Her mother cleaned her.

Did the little girl intend this?

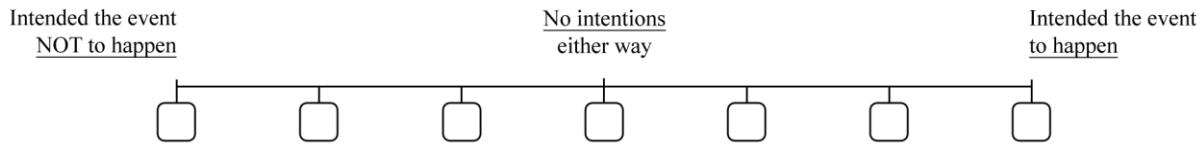
The second sentence described a transitive event in active-voice, while the question that followed asked about the intentions of the Patient of that event. The second sentence and the question were both consistent across all conditions. The first sentence provided a context for the event in the second sentence. This context changed in regard to the intentions of the event's Patient, indicating either that the character intended the event to happen (for), intended the event not to happen (against), or had no intentions either way (neutral). This constituted the experimental manipulation, *Intention*. This gave a three-level design.

10.4 Procedure

For this pre-test I used a rating paradigm, similar to that used in Experiment 3. The 36 (items) x 3 (conditions) were assigned to three separate lists in such a way that each item appeared precisely once per list, and in a different condition in each of the three lists, using a Latin square. This produced a total of twelve items per condition per list, ensuring an equal frequency of each condition in each list. For this study no filler materials were used between experimental items, giving a total of 36 materials per list.

The task was carried out using pen and paper. Participants read through the materials one by one, responding to the question before moving on to the next item. Participants were informed that the question related to the short second sentence; this sentence was easily identified by appearing on a separate line and with italic formatting. The degree of intentionality was rated on an un-numbered scale with seven divisions. There were three cardinal points on the scale, labelled as in 2.

2)



Responses to the questions were recorded by placing a mark at any of the seven points along the scale.

10.5 Results

Since this was a very simple task, all questions were completed and were marked clearly; no data were discarded. The data were prepared for analysis by converting the participant responses for each experimental item into numerical scores between −3 and +3, where −3 represents intention *against*, +3 represents intention *for*, and 0 represents *neutral* intention.

Analyses were based on General Linear Models as well as Generalised Linear Models using Generalised Estimating Equations in SPSS 20.

Since these data were ordinal, a generalised linear model was employed. An independent covariance structure was assumed. The model revealed a main effect of *Intention*, which was significant both by subjects and by items (p=.000). This indicates that there were clear differences in response across the conditions. Table 1 gives pairwise comparisons for the three conditions.

Table 1 Pairwise comparisons for all conditions (for, against, neutral *intention*).

	by subjects		by items	
Condition	***Mean Diff. (Stand. Err)***	***p***	***Mean Diff. (Stand. Err)***	***p***
For − Against	4.53 (.12)	.000	4.53 (.20)	.000
For − Neutral	2.34 (.13)	.000	2.34 (.18)	.000
Neutral − Against	2.19 (.13)	.000	2.19 (.21)	.000

As shown in Table 1, each condition was significantly different from all other conditions in terms of the perceived intention of the Patient. Table 2 shows the estimated marginal means for each condition.

Table 2 Estimated Marginal Means by condition (for, against, neutral *intention*).

	by subjects		by items	
Condition	***Mean***	***Std.Error***	***Mean***	***Std.Error***
For	2.13	.079	2.13	.174
Against	−2.40	.081	−2.40	.101
Neutral	−0.21	.094	.0.21	.195

As Table 2 indicates, the *For* condition received an intentionality score of 2.13 (± 0.16), placing it closest to "intended the event to happen"; the *Against* condition received a score of −2.40 (± 0.16), placing it closest to "intended the event not to happen"; while the *Neutral* condition received a score of −0.21 (± 0.18), placing it closest to "no intentions either way".

10.6 Discussion

This pre-test employed a rating paradigm to confirm whether the items proposed for use in the following experiments successfully represented the intended manipulation. The aim was for each condition to communicate a specific level of intention on the part of the event's Patient: intention for the event; intention against; and a neutral context.

The analyses showed that each condition was indeed significantly different from all other conditions. The mean estimates for each condition confirmed that they were distributed as intended: that is, the *for* condition had the most positive rating (intention *for* the event to happen), the *against* condition had the most negative rating (intention *against* the event happening), and the *neutral* condition had a rating close to zero (no intentions for or against the event happening). The three conditions were also very evenly spread, with a gap of 2.34 between *for* and *neutral*, and a gap of 2.19 between *neutral* and *against*.

As a side observation, it is notable that, while the conditions were evenly spread and were distributed as planned, there was a general negative shift across all responses: the neutral condition is slightly negative rather than being zero, and the *against* condition is 2.4 below zero, while the *for* condition is only 2.13 above zero. This suggests that there is a weak general tendency to assume less intention or negative intention.

Chapter 11: Effect of Patient Intention on Choice of Passive-type (experiment 6)

As noted above, one of the aspects closely related to the get-passive is the assumed intention of the Patient. With many authors (e.g. Hatcher, 1949; Lakoff, 1971; Lasnik and Fiengo, 1974; Barber, 1975; Sussex, 1982; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999) describing this feature in theory, the current experiment was designed to investigate this feature empirically. There is a general belief that get-passives are more prevalent in American English than in British English; indeed, the ESRC-funded project to which this thesis contributes, was initially rejected, with one of the reasons being that get-passives are more of an American phenomenon (the British would never get corrupted by such a non-canonical form). Despite this, there is corpus evidence that the frequency of get-passives is roughly equal in the two English varieties (e.g. Collins, 1996), and that the preference for a by-phrase is also comparable across these varieties (e.g. Guoliang & Lei, 2010). This experiment therefore also investigates possible differences between British and American use of passive-types.

Here I used a simple fill-in-the-blanks design. This paradigm was chosen partly because it guarantees the desired structure (passive) will be elicited, giving participants only two possibilities with which to fill the gap in the sentence (*be* or *get*). This design also removes the impact of acceptability judgement; that is, the passive form is already presented and the task is to fill in a missing word, regardless of intuitions about the appropriateness of the passive-voice.

If get-passives are related to Patient volition or intention, then I would expect its use to be least frequent in the neutral condition (where the Patient has no intentions regarding the event). If control is an important factor for get-passive use, then they should be most frequent when the Patient exhibits intention for the event, rather than against the event; since the event does occur, intention against the event would display a lack of control over proceedings.

11.1 Design

Two factors were independently manipulated. The first was Intentionality, which was manipulated at three levels (for/against/neutral), while the second factor, Language Variety,

was manipulated at two levels (British/American). The first factor was within-subjects and within-items. The second factor was between-groups.

11.2 Participants

Seventy-two native English speakers were tested in individual sessions, each lasting approximately 30 minutes. All received subject payment or course credits for their participation. Half of the subjects were speakers of British English, recruited through the University of Glasgow subject database; the other half were speakers of American English, recruited at the University of South Carolina[2].

11.3 Materials

Thirty-six sets of materials were created (as in 1), each with three conditional variants (full item list in Appendix 6). Each item was three sentences in length. The middle sentence was always the same across conditions and was always the sentence that contained a gap. In experimental trials the gap was the position of the pvC (*be* or *get*).

1) *The game of 'hide and seek' was far too slow and Sara decided to end it. Before long she . . . seen by her brother. Finally they could play a different game!* (for)

   Sara was enjoying the game of 'hide and seek' and wanted to keep hiding all day. Before long she . . . seen by her brother. After that they had to play a different game. (against)

   Sara and the other children were playing a game of 'hide and seek'; they enjoyed hiding, as well as being found. Before long she . . . seen by her brother. The game continued all afternoon. (neutral)

The first and last sentence provided a context to the transitive event described in the middle sentence. This context set up the level of intentionality of the Patient: either that character intended the event to happen (for), intended the event not to happen (against), or

[2] My thanks to Professor Fernanda Ferreira and her students for recruiting participants and conducting the American portion of this experiment.

had no intentions either way (neutral). These contextual sentences were taken from the previously described pre-test rating study. This constituted the first experimental manipulation, *Intention*. In addition to this, the experiment was conducted with two groups of participants: one group from Britain, and one group from America. This represented the second experimental manipulation, *Variety (of English)*. This produced a 3 (Intention levels) × 2 (Variety levels) design.

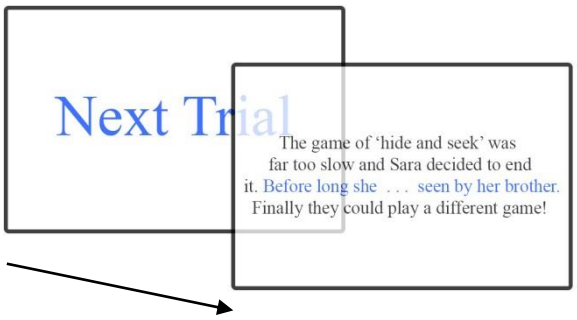
11.4 Procedure

This experiment used a fill-in-the-blanks design. The 36 (items) × 3 (Intention levels) were assigned to three separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the three files, using a Latin square. This resulted in twelve items per condition per file, ensuring an equal frequency of each condition in each file. Further to the 36 critical items per file, 72 filler items were also included. The fillers varied structurally, having various features to disguise the precise intentions of the study. The gap location in the fillers also varied across lexical categories (i.e. verbs, nouns, adjectives, etc.). The three files were used for both experimental groups, since the between-groups manipulation was implemented through the variety of English spoken natively by each group.

The task was presented on a 12" LCD monitor running at 60 frames per second and was run using e-Prime. The participants interfaced with the task using a keyboard. The spacebar was used to advance through trials.

Each trial proceeded as shown in (2). Trials began with a centralised text display saying ‘next trial’. The trial would proceed only when the participant pressed the spacebar, allowing them to take a break at any time. The next screen displayed the three sentence story in the middle of the screen.

2)



Participants began by reading the whole paragraph silently, allowing them to fully appreciate the context of the event. After this they read the middle sentence aloud, filling in the blank as they read. The font for the middle sentence was presented in blue so that identifying the correct section to read out did not involve additional thinking or difficulty. After speaking their answer, they pressed spacebar again to begin the next trial.

Participants' spoken responses were audio recorded on the experimenter computer and as either *be* or *get*. Since any other response would be ungrammatical, they were coded as errors. Each participant was presented with one of the three files, giving them 108 trials, which were split into 3 blocks, allowing for breaks to maintain attentiveness.

At the end of each session the participants were debriefed and asked if any types of sentence had made changes easier or harder to notice, and whether they had noticed any patterns in the study.

11.5 Results

Any responses that were not one of the two pvCs (get or be) were discarded, as they were not grammatical in the gap position. This resulted in the loss of approximately 2.5% of responses, leaving 2523 valid responses.

All data in the following analyses were binary. Therefore a binomial distribution and logit link function were used. An exchangeable covariance structure was assumed. In each case, to investigate whether effects can be generalized across both subjects and items, two types of *Logit Binomial GEE* analysis were carried out: the first took *Intention* as a within-*subject* factor and *Variety* as a between-subject factor; the second took *Intention* and *Variety* as within-*item* factors. This produced a 3×2 design.

11.5.1 Descriptive Statistics

Cross-tabulation was used to descriptively explore the data, providing counts for the two possible responses (*get* or *be*) for both language groups and each of the three conditions. The results of this analysis are summarised in Table 1.

Table 1 Results of cross-tabulation, giving raw counts of response given (be or get) for each condition (intention for, against, and neutral) and both language varieties (British and American)

		Be	Get	Total
British	for	408	17	425
	against	401	20	421
	neutral	402	21	423
American	for	406	15	421
	against	407	13	420
	neutral	406	7	413
Total		2430	93	2523

Table 1 shows a clear preference for the be-passive, as well as a very consistent frequency across all conditions. Get-passives appear to be more influenced by context in American English, as compared to British English. This is indicated by the greater variability across the three *Intention* levels in American English.

11.5.2 Get-passive Responses

The model was used to predict the likelihood of using the pvC *get* to complete the passive sentences as a function of *Intention* and *Variety*. Table 2 summarises the results from these analyses.

Table 2 Results from *Logit Binomial GEE* analyses, predicting the likelihood of using *get* to fill-in-the-blank by factor combinations of *Intention* (for, against, or neutral) and *Variety* (British English or American English).

		by subjects		by items	
Effect	***df***	$_{GS}\chi^2$	***P***	$_{GS}\chi^2$	***P***
Intention (I)	2	1.313	.519	1.258	.533
Variety (V)	1	1.374	.241	3.202	$^{(*)}$.074
I × V	2	4.256	.119	3.942	.139

As can be seen from Table 2, there was only one possible effect indicated in the data. The main effect of *Variety*, whereby the use of the pvC *get* was more likely in British

rather than American English, was approaching significance, though only by items. The interaction, while not significant overall, is worth giving brief consideration; it is decomposed into simple effects in Table 3.

Table 3 Ninety-five percent Wald CIs for the simple effect of *Variety* (British minus American) for each Intention level. Significant contrasts are marked with an asterisk.

	Intention		
	For	Against	Neutral
By Subjects	.00±.04	.02±.04	(*).03±.04
By Items	.00±.03	.02±.03	*.03±.03

Table 3 reveals that there is an effect in the Neutral Intention condition, which is significant by items and approaching significance by subjects. This effect suggests that the use of *get* is slightly lower in American English (.02±.02) than in British English (.05±.03). There is also a descriptive effect in the same direction, to a smaller degree, in the Against condition, with American English again having a lower get-passive frequency (.03±.02) than British English (.05±.03).

11.6 Discussion

For this experiment I used a fill-in-the-blanks paradigm to investigate possible contextual effects on the use of the two passive-types (*get* and *be*). Specifically, I looked at whether the degree of intention on the part of the Patient would affect pvC choice, as well as whether there were any differences between two varieties of English: British and American. I analysed the likelihood of using *get* rather than the canonical form *be*.

Overall, participants were most likely to fill in the blank pvC position with *be* rather than the alternative, *get*. This is in line with corpus data and previous experimental results (see Chapter 2), as well as the data on acceptability discussed in Chapter 5.

For the British participants, the proportion of *get* usage was very consistent across the three levels of Intention (*for*, *against*, and *neutral*). The American participants had a proportion of *get* usage in the *For* condition comparable with the British group, with fewer in the *Against* condition, and significantly fewer in the *Neutral* condition (see Table 1, above). This suggests that speakers of American English are more sensitive to the degree of perceived Intention on the part of the Patient as compared to British English speakers.

Interestingly, the overall proportion of get-passives was descriptively highest in British English, with twice as many *get* uses as in American English. This is contrary to various corpus studies, which claim to show no difference in get-passive frequency between these two varieties (e.g. Collins, 1996).

These effects, which are significant only by items or are close-to-significant, would benefit from testing additional participants. This would serve to crystallise the effects; confirming either their significance or non-significance.

Chapter 12: Patient Intention in Reading (experiment 7)

The previous experiment employed a fill-in-the-blanks paradigm to consider the effects of Patient intention on the choice of passive-type. However, the observed effects were not strong, which could be due to the number of participants, the nature of the paradigm (allowing a degree of self-correction), or other factors. Since this aspect of the get-passive is so frequently cited in theoretical literature, I believe it is worth pursuing further in empirical terms. This experiment uses a more implicit measure to compare the relative effects of passive-type and the Patient's level of intention. A reading eye-tracking paradigm is employed.

Eye-tracking during reading allows several types of measurement to be taken (these will be discussed further below), and can be an indicator of cognitive processing (Rayner, 1975). As a generalisation, words that are expected or predicted by context are fixated for less time than those that are less expected (see, for example, Ehrlich & Rayner; Rayner & Well, 1996); likewise, infrequent words are fixated for longer than more common words (see, for example, Rayner & Duffy, 1986).

Although the data were not significant in the previous fill-in-the-blanks study, my predictions regarding the intention of the Patient remain consistent. That is, if get-passive use is linked to Patient intention, it should to be least preferred in the neutral condition. This would be manifested in slower reading times and more regressions in this condition rather than the for or against conditions. Again, if control is significant for the use of get-passives, then they should be most preferred when the Patient intends the event to happen, rather than when they intend it not to happen (therefore implying absence of control). If this is the case, reading times should be fastest and regressions less frequent when get-passives occur with Patient intention for the event.

There may be an overall penalty in reading times for get-passives rather than be-passives, since the former are less frequent and are discouraged and dispreferred (see Chapter 2).

12.1 Design

Two factors were independently manipulated. The first was Passive-Type, which was manipulated at two levels (be/get), while the second factor, Intention, was manipulated at

three levels (for/against/neutral). Both manipulations were within-subjects and within-items.

12.2 Participants

Thirty-six native English speakers with normal or corrected-to-normal vision were tested in individual sessions, each lasting approximately 45 minutes. Each received payment or course credits for their participation. All participants were recruited through the Glasgow University subject database. The mean age of the participants was 23.5 years.

12.3 Materials

Thirty-six sets of materials were created (as in 1), each with six conditional variants (full list of items in Appendix 7). Each item consisted of three sentences.

1) *The game of 'hide and seek' was far too slow and Sara decided to end it. Before long she {was/got} seen by her brother. Finally they could play a different game!* (for)

   Sara was enjoying the game of 'hide and seek' and wanted to keep hiding all day. Before long she {was/got} seen by her brother. After that they had to play a different game. (against)

   Sara and the other children were playing a game of 'hide and seek'; they enjoyed hiding, as well as being found. Before long she {was/got} seen by her brother. The game continued all afternoon. (neutral)

The first sentence gave the contextual set-up and conveyed the first experimental manipulation. The sentence implied either that the Patient of the eventual action intended the event to happen (for), intended the event not to happen (against), or had no intentions either way (neutral). These sentences were taken from the pre-test experiment (Chapter 10), in which participants rated the perception of Patient intention, confirming that the sentences evoke the desired conditional variations.

The second sentence encoded the second experimental manipulation by alternating between the two pvCs (*be* and *get*). Other than this, the sentence remained consistent across conditions to eliminate any variations that could be caused by other linguistic

differences. There were thirty-six lexical verbs used, each experimental item having a unique verb. Verbs were selected on the basis that they are passivizable, can occur in both be-passives and get-passives, and their relative frequency with *be* and *get* is high.

The third sentence was simply a suitable coda to the short-story, supporting the contextual set-up of the first sentence.

Regions of interest were all contained within the second sentence. This meant that, within items, there were no variations with regard to word length or lexical frequency, etc. This produced a 3 (Intention levels) × 2 (pvC levels) design.

12.4 Procedure

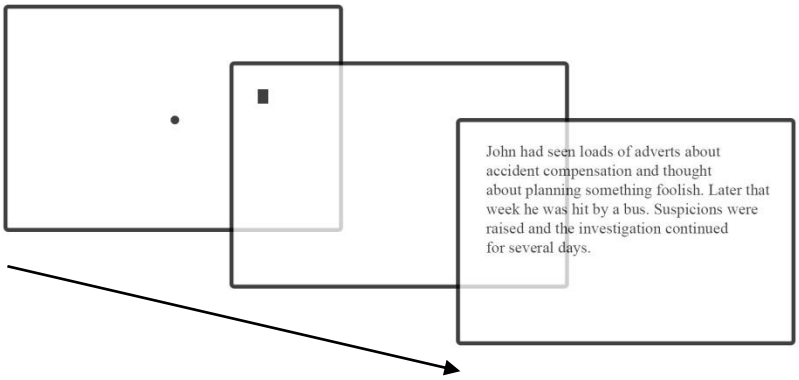
This experiment employed a reading eye-tracking paradigm. The 36 (items) × 6 (conditions) were assigned to six separate files in such a way that each item appeared precisely once per file, and in a different condition in each of the six files, using a Latin square. This resulted in six items per condition per file, ensuring an equal frequency of each condition in each file. Further to the 36 critical items per file, 74 filler items were also included. These fillers also consisting of three sentences, using a variety of other structures in place of the passive. Randomization was constrained so that there were always four fillers at the beginning of each session and each experimental item was preceded by at least two filler trials. This gave a total of 110 trials per file.

The experiment was implemented in *UMass EyeTrack software*. An EyeLink 1000 desk-mounted eye-tracker was used to trigger the display of each trial and to record participants' eye-movements during reading, with gaze location monitored at a sampling rate of 1Khz. The experimental materials were presented on a 17" CRT monitor of a DELL Optiplex GX 270 desktop computer running at a display refresh rate of 75Hz. Participants sat 70cm from the display. Head movements were minimised through the use of chin and forehead rests. Although viewing was binocular, only the dominant eye of each participant was tracked. Eye-dominance was assessed through standard tests, such as the convergence near-point test (see for example Roth, Lora, & Heilman, 2002), which involves fixating on an object that is brought closer to the face until it approaches the dominant eye, or the Miles test (Cheng et al. 2004), which involves fixating a distant object through a ring made with the fingers and again drawing it closer until the hand approaches the dominant eye. Participants interacted with the experiment via a game controller connected to the participant computer.

Participants were instructed to silently read each of the on-screen stories at their normal speed. They were informed that after 20% of the stories, they would be presented with a comprehension question, which they answered by pressing buttons for either *yes* or *no*. These questions were spread across both experimental and filler materials. When participants were comfortably seated, with their head against the rests, the eye-tracker was calibrated. Participants were unaware of the nature of the experimental manipulations, any difference between target and filler trials, or the exact purpose of the study. They were told that the study was concerned with eye-movements during natural reading.

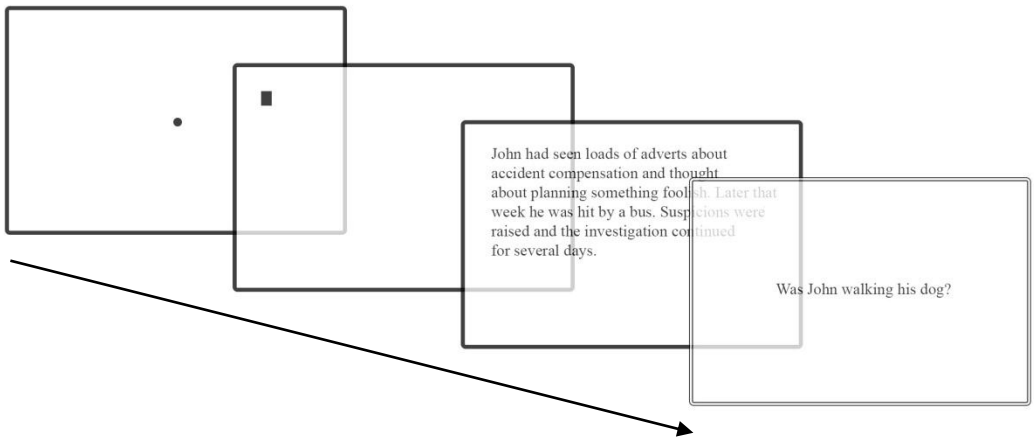
Each trial proceeded as in (2) and (3). Trials began with the presentation of a central fixation spot which participants were instructed to direct their gaze to. When the pupil was steady, the experimenter pressed the spacebar on the control computer to correct for gaze-drift. This placed a black square on the screen at the eventual location of the first character of the story. Once the participant's gaze landed on the square, the story was displayed in full and they proceeded to read it silently. Once they had finished reading they signalled this by pressed a button on the controller. In those trials without a comprehension question (2), this button press initiated the next trial, beginning with the presentation of the central fixation spot.

2)



For trials that did have a question (3), the button press removed the story from the screen and initiated the display of a question. Participants responded with either *yes* or *no* via two trigger buttons on the controller.

3)



Responses to the comprehension questions were recorded in the *EyeTrack software*. The experimenter sat at a separate computer from which calibrations were controlled and recordings were monitored. The eye-tracking data were extracted and filtered using *EyeDry* and *EyeDoctor*.

12.5 Results

For analysis, the target sentence was divided into four regions of interest. These were: Region 0, a pre-target region of two words preceding the primary target region; Region 1, the primary target region, consisting of the passive verbal complement (*was*/*got*) plus the lexical verb (e.g. *hit*); Region 2, a secondary target region (the full agentive by-phrase); and Region 3, a post-target region of one word after the by-phrase (see (4) below).

4)

...end it. Before	long she	was seen	by her brother.	Finally	they could...
	region 0	region 1	region 2	region 3	

Regions 1 and 2 were chosen since they represent the primary features of the passive: the verb phrase, containing the pvC and the main verb; and the optional agentive by-phrase. Regions 0 allowed the investigation of early effects due to parafoveal preview of the critical region, and Region 3 was included to consider the possibility of any long term effects.

Seven measures were employed in the analysis of the eye-tracking data: *First Fixation Duration* (FFD) is the duration of the very first fixation occurring within a region of interest; *Gaze Duration* (GD) is the total time of all fixations within a region prior to

moving beyond that region, i.e. it does not include any later regressions back to the region; *Regression Path Duration* (RPD) is the time spent within a region, following a regression back to that region; *Total Time* (TT) is the sum of all fixations within a region, including first-pass and all regressions back into that region; *First Pass Regression* (FPR) is a measure simply of whether or not there were any regressions back to a region during the initial reading of the text; *Number of Fixations* (NoF) is a count of how many times a region is fixated in the first reading of the text; and *First Landing Position* (FLP) is a measure of how far into a region the first fixation is.

The statistical models used to explore the data varied depending on the nature of each measurement. Four measures were based on durations in milliseconds: First Fixation Duration, Gaze Duration, Regression Path Duration, and Total Time. For these measures an exchangeable covariance structure was used, and a gamma distribution with log link function was assumed, since time series data have a tendency to be positively skewed, as opposed to having a normal distribution. The gamma distribution also excludes zero millisecond responses, since they do not contribute meaningful information and would only serve to pull the mean towards zero.

Two measures were counts: First Landing Position and Number of Fixations. Again an exchangeable covariance structure was used, and a poisson distribution with a loglinear link function was assumed. Responses of zero were filtered out prior to analysis, since these represent occasions on which a given region was not fixated at all, and would negatively bias the mean.

Finally, one measure was binary: First Pass Regression. An exchangeable covariance structure was used, this time assuming a binary distribution and logit link function.

After testing a set of thirty-six participants, it was discovered that a software error had caused the omission of two full conditions from the data recordings. Before carrying out the experiment a second time with another thirty-six participants, I examined the conditions for which data was successfully recorded. Data was missing for conditions 5 (get-passive; intention against) and 6 (get-passive; neutral intention). This limited the analyses that could be performed to two groupings. First a comparison could be done using the two conditions with Patient intention *for*: be-passive with intention for; and get-passive with intention for. Comparisons were also possible across the three be-passive conditions;

that is, be-passive at each of the Intention levels, for, against, and neutral. These truncated results are presented and discussed in Appendix 9.

From the analyses of the partial data collected in the first run of this experiment, notable trends and effects were observed. Hence, it was deemed more than worthwhile to re-run the experiment to allow investigation of the full original design. A new group of thirty-six participants were tested. As in Run 1, all were native English speakers with normal or corrected-to-normal vision and were tested in individual sessions lasting approximately 45 minutes. Each received payment or course credits for their participation. All participants were recruited through the Glasgow University subject database.

Below I discuss the results of this second experimental run. This time recordings of all conditions were complete. Accuracy in question comprehension was again 83% or above for all participants.

12.5.1 Descriptives

Table 9 gives descriptive statistics for the seven measures, across the four regions of interest, and for all six conditions. FFD, GD, RPD, and TT are all measured in milliseconds; FPR is a binary measure; and NoF and FLP are counts.

Table 9 Descriptive Statistics for all Conditions and Regions (from by-subjects analyses)

Measure	Condition		R0		R1		R2		R3	
			M	*SE*	*M*	*SE*	*M*	*SE*	*M*	*SE*
FFD (ms)	Be	For	175	6	183	5	201	5	193	6
		Against	172	5	185	5	193	5	199	11
		Neutral	169	4	188	5	202	7	199	8
	Get	For	175	5	189	6	196	7	185	9
		Against	168	6	184	5	199	5	202	7
		Neutral	176	5	188	6	199	6	180	6
GD (ms)	Be	For	249	11	272	13	433	27	205	8
		Against	245	10	268	14	417	21	206	12
		Neutral	253	11	287	18	465	27	214	11
	Get	For	250	11	300	16	450	29	204	13
		Against	257	14	283	18	428	26	214	8
		Neutral	255	13	311	18	467	30	203	10
RPD (ms)	Be	For	295	20	307	19	467	30	205	8
		Against	270	13	307	17	462	28	211	12
		Neutral	300	18	328	21	549	34	216	12
	Get	For	276	13	338	19	487	32	204	13
		Against	305	16	336	18	496	29	216	8
		Neutral	292	17	376	22	512	35	208	11
TT (ms)	Be	For	305	16	374	24	519	28	221	11
		Against	287	13	389	19	508	24	232	13
		Neutral	319	18	426	22	565	31	242	16
	Get	For	282	13	403	20	510	30	219	14
		Against	290	14	407	20	537	27	240	13
		Neutral	294	17	435	23	561	30	222	12
FPR (0/1)	Be	For	.16	.024	.13	.022	.18	.028	.01	.009
		Against	.12	.026	.18	.035	.22	.031	.04	.020
		Neutral	.17	.025	.19	.035	.21	.032	.02	.014
	Get	For	.14	.026	.13	.025	.16	.030	.04	.018
		Against	.19	.022	.17	.037	.20	.026	.05	.020
		Neutral	.14	.023	.21	.029	.18	.029	.01	.008
NoF (#)	Be	For	1.43	.057	1.49	.054	2.22	.111	1.07	.030
		Against	1.40	.046	1.47	.063	2.16	.095	1.07	.024
		Neutral	1.47	.053	1.52	.079	2.39	.115	1.11	.032
	Get	For	1.40	.052	1.63	.068	2.31	.116	1.11	.035
		Against	1.83	.160	1.53	.078	2.14	.107	1.15	.050
		Neutral	1.45	.059	1.64	.071	2.36	.117	1.11	.031
FLP (#)	Be	For	4.97	.186	4.77	.243	6.20	.292	3.19	.201
		Against	5.41	.169	5.06	.229	6.20	.246	3.23	.142
		Neutral	5.50	.189	4.95	.255	6.37	.299	3.22	.169
	Get	For	5.27	.231	4.84	.274	6.49	.294	2.99	.198
		Against	5.52	.189	4.75	.233	6.59	.297	3.13	.153
		Neutral	5.20	.187	4.47	.252	6.40	.247	2.96	.146

FFD - First Fixation Duration; **GD** - Gaze Duration; **RPD** - Regression Path Duration; **TT** - Total Time; **FPR** - First-Pass Regression; **NoF** - Number of Fixations; **FLP** - First Landing Postion; **R0** - Two words before critical region; **R1** - Critical region (was hit / got hit); **R2** - By-phrase (by the bus); **R3** - One word after end of by-phrase

There are two main points to note from Table 9. Within each region, very little variation can be seen in the First Fixation Duration measure; and the First Landing Position also displays no remarkable difference within regions. Differences in the remaining measures are more complex, and are explored further through inferential statistics.

12.5.2 Inferential Statistics

Statistical analyses were based on Generalised Linear Models using Generalised Estimating Equations in SPSS 20. Each of the seven measures required different structures and assumptions in the statistical model, as detailed in 12.5 above. However, in each case, to investigate whether effects can be generalized across both subjects and items, two types of GEE analysis were carried out: the first took Intention and Passive-type as within-subject factors, while the second took Intention and Passive-type as within-item factors. This produced a 3×2 design for each of the analyses.

The various models were used to predict variations in the seven measures as a function of *Intention* and *Passive-type*, as well as the interaction between them. I will discuss the results region by region.

Region 0

This region was analysed with the intention of capturing any early effects due to parafoveal preview. Table 10 summarises the results for Region 0, comprised of two words prior to the critical region.

Table 10 Region 0 - Preview region - two words before critical region

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD					
PVtype (P)	1	.168	.682	.168	.682
Intention (I)	2	1.229	.541	1.843	.398
P × I	2	2.543	.281	1.587	.452
GD					
PVtype (P)	1	.376	.540	.420	.517
Intention (I)	2	.493	.782	.087	.957
P × I	2	.899	.638	.527	.768
RPD					
PVtype (P)	1	.071	.790	.043	.836
Intention (I)	2	.955	.620	.331	.848
P × I	2	7.581	*.023	6.174	*.046
TT					
PVtype (P)	1	3.235	(*).072	2.935	(*).087
Intention (I)	2	2.203	.332	1.650	.438
P × I	2	4.056	.132	2.753	.252
FPR					
PVtype (P)	1	.210	.647	.079	.778
Intention (I)	2	.039	.980	.004	.998
P × I	2	4.162	.125	4.223	.121
NoF					
PVtype (P)	1	3.102	.078	1.065	.302
Intention (I)	2	5.149	.076	1.279	.528
P × I	2	7.908	*.019	1.583	.453
FLP					
PVtype (P)	1	.060	.806	.040	.842
Intention (I)	2	5.069	.079	1.985	.371
P × I	2	4.970	.083	2.590	.274

As Table 10 indicates, there were some notable effects in the data. A main effect of Passive-type was approaching significance both by subjects and by items in Total Time, indicating that reading time was longer with *be* than with *get*.

There was also an interaction in the Regression Path Duration data, which was fully significant both by subjects and by items. This interaction is decomposed into simple effects in Table 11.

Table 11 Ninety-five percent Wald CIs for the simple effect of *Passive-type* (be minus get) for each Intention level. Significant contrasts are marked with an asterisk.

	Intention		
	For	Against	Neutral
By Subjects	25±30	*−35±32	8±27
By Items	27±29	*−37±33	12±30

Table 11 reveals that the interaction is driven by an effect in the Intention *against* condition: when combined with a be-passive, the *against* condition results in reliably shorter Regression Path Durations than the *for* or *neutral* conditions; however, when combined with a get-passive, the *against* condition results in reliably *longer* Regression Path Durations than either the *for* or *neutral* conditions. This interaction is reliant on readers being able to infer that the sentence is passive, or parafoveally processing the following region.

This interaction is also present in the Number of Fixations data, though only by subjects. This interaction is again driven by the *against* condition: in combination with a be-passive, the *against* condition yields the fewest fixations as compared to the *for* or *neutral* conditions; while combined with a get-passive, the *against* condition yields the *most* fixations as compared to the *for* or *neutral* conditions. Furthermore, get-passives in the *against* condition result in significantly more fixations than any of the other five conditions.

Region 1

This region was analysed with the intention of investigating any effects due to the experimental manipulations at the pvC itself. Table 12 summarises the results for Region 1, the critical region comprised of the pvC (*get* or *be*) plus the main verb (e.g. *hit*).

Table 12 Region 1 - Critical region (was hit / got hit)

		by subjects		by items	
Effect	***df***	***Generalized*** χ^2	***P***	***Generalized*** χ^2	***P***
FFD					
PVtype (P)	1	.162	.687	.178	.673
Intention (I)	2	1.990	.370	1.042	.594
P × I	2	1.736	.420	1.503	.472
GD					
PVtype (P)	1	4.248	*.039	3.962	*.047
Intention (I)	2	7.885	*.019	2.042	.360
P × I	2	.731	.694	.409	.815
RPD					
PVtype (P)	1	13.212	*.000	6.357	*.012
Intention (I)	2	8.207	*.017	4.774	(*).092
P × I	2	.497	.780	.552	.770
TT					
PVtype (P)	1	2.239	.135	1.178	.278
Intention (I)	2	13.248	*.001	5.895	(*).052
P × I	2	.532	.767	.480	.786
FPR					
PVtype (P)	1	.003	.954	.004	.952
Intention (I)	2	4.456	.108	3.580	.167
P × I	2	.750	.687	.485	.785
NoF					
PVtype (P)	1	4.209	*.040	4.697	*.030
Intention (I)	2	3.720	.156	1.356	.508
P × I	2	1.164	.559	.747	.688
FLP					
PVtype (P)	1	1.924	.165	2.285	.131
Intention (I)	2	1.496	.473	1.092	.579
P × I	2	1.935	.380	2.192	.334

As can been seen in Table 12, there were several significant main effects in the data, although, for this interest region, there was no interaction of the two manipulations.

A main effect of Passive-type is evident in three measures: Gaze Duration, Regression Path Duration, and Number of Fixations. All three measures were reliably increased in the presence of a get-passive, as opposed to a be-passive. That is, during first-pass reading, this region was fixated longest when the pvC was *get* rather than *be*; the

length of regressions prior to moving beyond this region were longest when the pvC was *get*; and the number of fixations within this region was again highest in the presence of *get*. Though the two pvCs are different words, they are the same length and are highly frequent lexemes. These main effects indicate that these two passive forms differ, and even if this is influenced by the fact they contain different lexemes, it demonstrates, at the very least, that the forms are not merely interchangeable.

A main effect of Intention is also observed in three of the seven measures: Gaze Duration (significant by subjects only), Regression Path Duration (significant by subjects and approaching significance by items), and Total Time (significant by subjects and approaching significance by items). This effect is driven by the *neutral* intention condition, in which all three measures are reliably increased. That is, in the *neutral* condition this region is fixated significantly longer than in the *against* condition, and descriptively longer than in the *for* condition; the duration of regressions before moving beyond this region are reliably longer in the *against* condition than either the *for* or *against* conditions; and the total amount of time spent in this region is again reliably longer in the *against* condition than either the *for* or *against* conditions.

Region 2

This region immediately followed the critical region and consisted of the full agentive by-phrase. Table 13 summarises the results for Region 2.

Table 13 Region 2 - Agentive by-phrase

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD					
PVtype (P)	1	.021	.884	.014	.906
Intention (I)	2	1.007	.605	.911	.634
P × I	2	2.259	.323	1.971	.373
GD					
PVtype (P)	1	.601	.438	.929	.335
Intention (I)	2	7.183	*.028	4.511	.105
P × I	2	.214	.898	.321	.852
RPD					
PVtype (P)	1	.228	.633	.283	.595
Intention (I)	2	10.414	*.005	5.344	.069
P × I	2	6.523	*.038	3.015	.221
TT					
PVtype (P)	1	.141	.707	.200	.655
Intention (I)	2	9.411	*.009	4.509	.105
P × I	2	2.439	.295	2.388	.303
FPR					
PVtype (P)	1	.844	.358	.779	.378
Intention (I)	2	2.868	.238	2.878	.237
P × I	2	.112	.945	.093	.955
NoF					
PVtype (P)	1	.075	.784	.177	.674
Intention (I)	2	8.043	*.018	5.730	(*).057
P × I	2	.443	.801	.880	.644
FLP					
PVtype (P)	1	1.487	.223	2.357	.125
Intention (I)	2	.077	.962	.063	.969
P × I	2	.845	.656	.778	.678

As Table 13 indicates, there were several effects in the data for this region, mostly reflecting a main effect of Intention. This main effect is visible in four of the seven measures: Gaze Duration (significant by subjects only), Regression Path Duration (significant by subjects and approaching significance by items), Total Time (significant by subjects only), and Number of Fixations (significant by subjects and approaching significance by items). These effects, as in Region 1, are driven primarily by the *neutral* intention condition, with all four measures being reliably increased in this condition. That is, this region is fixated reliably longer in *neutral* contexts rather than *for* or *against*

contexts; the duration of regressions prior to moving past this region a significantly longer in the *neutral* condition than the other conditions; likewise, the total time spent in the region in first-pass reading is significantly longer in the *neutral* condition; and the number of times the region is fixated is also highest in the *neutral* contexts. In each of these four measures, there is no reliable difference between the *for* and *against* conditions.

There was also an interaction between the two manipulations in the Regression Path Duration data, though it was only significant by subjects. However, further decomposition did not reveal any meaningful effects.

Region 3

The final region displayed no significant effects, most likely due to its distance from the manipulated critical region. Inferential statistics for this region are provided in appendix 8.

12.6 Discussion

This experiment used a reading eye-tracking paradigm to investigate differences between the two passive-types and levels of Patient intention, as well as any potential interaction between the two. The second run of this experiment captured all six conditions in full, allowing a full investigation of the design.

The descriptive data seem to primarily indicate that the relative frequency of the lexeme *get* versus the lexeme *be* did not impact on the reading times of participants. There was no notable variation in First Fixation Duration, hence no additional consideration or processing was required of *get* rather than *be*. Furthermore, First Landing Position shows no significant variance. This is most relevant for region 1; the critical region, which contained either *get* or *be*. Even with preview available, participants were no more likely to skip over *be* than *get*. However, contrary to these measures, there was also a descriptive increase in Gaze Duration for *get* conditions in region 1. It is unclear from this whether or not frequency is the driver of this effect.

In region 1 (critical region) the *get* conditions elicited the longest Gaze and Regression Path Durations, as well as the highest Number of Fixations. These main effects indicate that get-passives are more difficult to process than be-passives overall. Contrary to this, in region 0 (preview region), *get* conditions elicited shorter total reading times than *be* conditions. However, it should be noted that this apparently opposing effect was only approaching significance by subjects (p=.072) and by items (p=.087), so is not as robust as the region 1 effects.

Interaction between passive-type and intention was evident in the preview region, for both Regression Path Duration and Number of Fixations. In both cases, this is primarily driven by the *against* condition, in which the intention of the Patient is that the described event does not happen. Since the event does occur, it can be said that this condition, *against*, also describes the most negative or unwanted outcome. For both measures (RPD and NoF), the intention *against* condition is easiest to process when described via a be-passive, and is hardest to process when described using a get-passive. That is, regressions lasted longer and fixations were more frequent when a get-passive was combined with a Patient who intended the event not to happen. This means that an event with an unwanted outcome for the Patient is associated more with the canonical be-passive.

This would appear to oppose the suggestions of some authors (e.g. Sawasaki, 2000; McIntyre, 2005), who believe *get* is the preferred passive-type for negative outcomes. Others have suggested the adversity of the get-passive can be both positive and negative

(Chappell, 1980; Sussex, 1982; etc.). It may be the case that 'negativity' as such, is multi-layered, not merely an aspect of default verb semantics. While a verb may be inherently positive (being *paid*, for example), if the Patient of the event desires it not to happen and yet it happens anyway, for that Patient the overall outcome is 'negative'; i.e. it is the opposite of their desired outcome. With the vague concept of 'negativity' potentially arising from one of several causes, references in the literature to 'negative outcomes' (see Chapter 2), could be based on the default semantics of the main verbs, or on the outcome in relation to the Patient's desired outcome. It would be beneficial to clarify this in future work.

Furthermore, when an event occurs that the Patient actively wanted to avoid, we can say that the Patient was not in control of the event. It has frequently been claimed that get-passives indicate Patient control (e.g. Hatcher, 1949; Lakoff, 1971; Barber, 1975; Givon & Yang, 1994; Downing, 1996; Sasaki, 1999; etc.). It follows, then, that describing an event wherein the Patient is explicitly not in control, the get-passive would be dispreferred, meaning it is less expected, and hence is more difficult to process.

A main effect of intention is seen in regions 1 and 2. The *neutral* conditions are consistently seen to be the most difficult to process: in both regions Gaze and Regression Path Durations, as well as Total Time, are all longest in the *neutral* conditions. This may arise from participants wondering about the relevance of the preceding information. Indeed, the contextual setup is less relevant to the described event when the Patient has no intentions either way. This lack of relevance may drive participants to confirm that they have not missed information pertaining to the main event. Alternatively, it could be the case that passives in general are preferred in contexts with some level of Patient involvement. As a result, the absence of Patient investment makes the passive-voice less predictable and hence more difficult to process.

Chapter 13: General Discussion and Conclusion

Motivated by the inconsistencies in Linguistic and Psychological literature, this research has been the first to take a broad view of the passive construction, while also providing more detailed empirical investigation. Instead of claiming or seeking some single feature that defines the get-passive, I have sought to describe its actual usage and to provide evidence of the factors that motivate its selection over the canonical be-passive.

This research has furthered both theoretical and practical understanding of passives, and hopefully will prompt additional investigation on this matter. Furthermore, I hope that this will encourage comparable studies on other linguistic phenomena; especially those with little or no empirical support.

The first Section of this thesis (Chapter 4) provided a syntactic theory of the passive, addressing several of the flaws and inadequacies in existing Linguistic literature. All current approaches struggle to describe how *get* can function as a passive while also capturing its syntactic and semantic nature. This primarily arises from the fact that all authors unquestioningly accept Chomsky's (1981) treatment of the be-passive as correct; assuming, therefore, that only the get-passive requires further consideration. In rejecting this supposition, I was able to unite all passive-types via a single structural unit. This not only describes the features that are shared across all passive forms, but vastly simplifies the interpretation of their semantic and syntactic behaviour. The pvP theory demonstrates that the passive does not need to be derived from an active-voice counterpart; rather, it is a stand-alone option for transitive event description. The research in Sections II-IV provided some evidence to support the pvP. While it cannot yet be conclusively hailed as the saviour of passive syntax and semantics, its simplicity and applicability make it a strong contender.

Section II (Chapters 5-7) provided empirical evidence for the distribution of and preference for the two passive-types (*be* and *get*), as well as their differing relationships with the optional agentive by-phrase. Experiment 1 (Chapter 5) replicated and improved a rating study by Budwig (1990), and demonstrated a clear preference for the be-passive over the get-passive. This supports general findings in corpus literature and studies of child language (see Chapter 2). A general preference for passives without a by-phrase was also observed. Furthermore, this study established a hierarchy of alternatives for transitive description, with active-voice being the most preferred, followed the be-passive, then the

get-passive. Experiments 2 and 3 (Chapters 6 and 7) provided more implicit measures to compare the passive-types and their association with the by-phrase. Experiment 2 gave further evidence that passives without a by-phrase are the preferred form, provoking increased decision-making response times. Both experiments 2 and 3 confirm theoretical accounts and corpus data that claim the agentive by-phrase is most closely related to the be-passive. An important asymmetry of *get* and *be* is also raised, which motivates the survival of the two passive-types: while the get-passive can perform the basic function of the be-passive, it has a far broader semantic range, hence the numerous variant claims about the function of *get* in the literature. However, while the get-passive is able to emulate the be-passive, its additional semantics are unavoidable: *get* cannot be used without some implication of its broad semantics; the be-passive allows the use of the passive without the weight of added connotations. From this Section, I conclude that the three alternatives (active, be-passive, get-passive) form a linear hierarchy for general transitive description. Nevertheless, each form serves its own purpose; they are not merely weaker or stronger versions of the same device. It is clear that the be-passive has the strongest link with the by-phrase, and so a more equal focus on Agent and Patient; the get-passive has a tendency not to include a by-phrase, hence places significantly greater focus on the Patient of the action. Furthermore, the get-passive has a broader semantic range, which was the focus of the latter two Sections of this work.

Section III (Chapters 4 and 5) suggested that the negativity of get-passives claimed in the literature may in fact arise from the type of verbs that *get* collocates with; that is, the negative semantics comes from the main verb as opposed to *get* itself. This is supported by the structure of the passive I proposed in the pvP theory. Further to this, experiment 5 (Chapter 9) revealed that, while they may overlap to some degree, the two passive-types are driven by unique factors. The be-passive, as the canonical and most acceptable form, is preferred when the Patient is the discourse topic, i.e. is given; use of the get-passive increases when the Patient is highlighted as important, e.g. via clefting.

Section IV (Chapters 10-12) further established the specific semantics of each passive-type. Events with unwanted outcomes favour description via the be-passive rather than the get-passive, which is in contradiction of many theoretical claims (see Chapter 2). This, in combination with the findings of Section III, suggests that ‘negativity’ is derived both via the inherent semantics of the main verb, and contextual information such as whether the

event was desired or not. Experiment 7 also empirically confirmed another frequent theoretical claim: get-passives are more likely when a Patient has some degree of control over the action, rather than when they have no control.

In conclusion, the research presented here clearly proves that the get-passive and be-passive are, at the very least, not interchangeable or equivalent. It has experimentally demonstrated that the two passive-types are semantically different; that they are driven by unique contextual factors; and that the get-passive, while reportedly dispreferred, has perhaps more roles to play than the canonical form. This latter fact may be a contributing factor in its increasing use. The experiments I have presented here introduce some much needed empirical evidence in regard to the many theoretical suppositions and proposals surrounding the passive, and specifically the get-passive. This has gone some way to clarifying the accuracy of these theories and pinning down the true features that separate the two passive-forms. While there have been previous empirical studies, these have focussed almost exclusively on child language and development. This thesis has extended the literature well into the realm of adult language production and understanding. The importance of this is clear, since the get-passive survives into adult speech, and is apparently growing in frequency.

Moving forward from this work, there is still much research needed to fully encapsulate the broad application of the get-passive, and the use of passive-voice in general. The features of get-passive semantics proposed in the literature are too numerous to have been exhaustively investigated in this work. The current research is the first to provide a deep empirical consideration of the various passive structures, and, as such, the results herein are still preliminary. The suggestions in the existing literature require study in order to determine their accuracy. Specific aspects such as affectedness, transitivity, reflexivity, and protagonist animacy, all deserve further consideration, especially in adult speech.

An obvious area that this research can be extended into is causative-get and the causative construction in general. This was touched upon in Chapter 4, in discussion of the pvP theory. Causative-get is occasionally mentioned in the literature, with suggestions of semantic or syntactic links to the get-passive. My proposed theory considers this also, claiming that all causative constructions contain the same pvP unit that is present in the be-passive and get-passive. A clear prediction that follows from this shared structural identity is that causative constructions should be able to prime passive production. Two

experiments are currently being run, similar to those in Chapter 7. In the first of these experiments, the prime sentences use the be-passive, get-passive, get-causative, and have-causative. Early indications are that there is some degree of priming of passive production from the get-causative and have-causative, however, this analysis is only preliminary. The second experiment considers further causative and related constructions.

One avenue that I did not fully exploit in this thesis is corpus research. Despite the variety of large-scale corpora that are available and have been used in the literature, there remains disagreement and a lack of clarity regarding the distribution of passive-types (see Chapter 2). The current literature would benefit greatly from a broad and deep multi-corpus analysis of the passive constructions. Indeed, work to this effect has been completed as part of the main project to this thesis.

As briefly noted in Sections III and IV of this work, the negativity reportedly communicated by the get-passive may have a number of contributing factors. Work aiming to specify the roles and relative contributions of these factors would give a better understanding, not only of passive semantics, but of adversative semantics in general.

Furthermore, if the get-passive indeed is a marker of importance or significance, then an interesting direction of study would be to consider how it interacts with other markers of importance. These could include prosodic features, such as stress, loudness, pitch, etc., or reporting styles, such as direct and indirect speech.

More generally, it would be encouraging to see purely theoretical linguistic theories being tested experimentally. As this research has shown, while some are proved to be correct, untested and intuitive theories have every chance of grossly misrepresenting the real world. If issues of get-passive semantics and ‘correctness’ can be wrongly intuited, then so can any theoretically described linguistic phenomenon. In this work I have combined theory and experimentation to give the fullest and most accurate picture of this specific mechanism.

The goal or purpose of language is successful communication. This being so, we should aim to model how people successfully communicate. Forming the best possible descriptions of current language usage will, for example, allow more effective first and second language teaching. As noted in Chapter 3, clear patterns and consistencies in real language use should not be interpreted as systematic performance errors; rather, they should inform description of the language. Any theory hoping to give an account of

language as it is stored in the brain should consider consistencies in performance data as true representations of language, and actively use experimentation to investigate it.

The get-passive may still be looked down upon as a be-passive in a cheap tuxedo, but the evidence indicates that, not only does *get* have unique functions, but it has a far wider range of functions or semantic connotations than *be*. It may be an invader; but it is a useful one. Without it, this thesis would never have gotten written.

Appendices

Appendix 1 - Materials for Experiment 1 (Chapter 5)

Conditions: 1= be with by; 2 = get with by; 3 = be without by; 4 = get without by

Item	Condition	Text
1	1	The designer was beaten by the shoemaker
1	2	The designer got beaten by the shoemaker
1	3	The designer was beaten
1	4	The designer got beaten
2	1	The hairdresser was hurt by the tailor
2	2	The hairdresser got hurt by the tailor
2	3	The hairdresser was hurt
2	4	The hairdresser got hurt
3	1	The minister was elected by the mayor
3	2	The minister got elected by the mayor
3	3	The minister was elected
3	4	The minister got elected
4	1	The firefighter was stopped by the assessor
4	2	The firefighter got stopped by the assessor
4	3	The firefighter was stopped
4	4	The firefighter got stopped
5	1	The composer was seduced by the dancer
5	2	The composer got seduced by the dancer
5	3	The composer was seduced
5	4	The composer got seduced
6	1	The banker was trapped by the alchemist
6	2	The banker got trapped by the alchemist
6	3	The banker was trapped
6	4	The banker got trapped
7	1	The producer was hit by the driver
7	2	The producer got hit by the driver
7	3	The producer was hit
7	4	The producer got hit
8	1	The gymnast was employed by the photographer
8	2	The gymnast got employed by the photographer
8	3	The gymnast was employed
8	4	The gymnast got employed
9	1	The diver was identified by the medic
9	2	The diver got identified by the medic
9	3	The diver was identified
9	4	The diver got identified
10	1	The model was attacked by the guard
10	2	The model got attacked by the guard
10	3	The model was attacked
10	4	The model got attacked
11	1	The painter was paid by the joiner
11	2	The painter got paid by the joiner
11	3	The painter was paid
11	4	The painter got paid
12	1	The miner was freed by the explorer
12	2	The miner got freed by the explorer
12	3	The miner was freed
12	4	The miner got freed
13	1	The scribe was dismissed by the sheriff
13	2	The scribe got dismissed by the sheriff
13	3	The scribe was dismissed
13	4	The scribe got dismissed
14	1	The secretary was punished by the manager
14	2	The secretary got punished by the manager
14	3	The secretary was punished
14	4	The secretary got punished
15	1	The guest was caught by the host
15	2	The guest got caught by the host
15	3	The guest was caught
15	4	The guest got caught
16	1	The teacher was killed by the beekeeper
16	2	The teacher got killed by the beekeeper
16	3	The teacher was killed
16	4	The teacher got killed

Appendix 2 - Materials for Experiment 2 (Chapter 6)

Condition 1: Be>Get, without by-phrase

	First Display	*Second Display*
1	On John's route to work, he saw a closed road. A pedestrian was hit earlier that morning. The investigation continued for several days.	On John's route to work, he saw a closed road. A pedestrian got hit earlier that morning. The investigation continued for several days.
2	The whole office waited eagerly for the man that retired to be replaced. A tall man was interviewed on Sunday. Most people thought it very likely he would get the position.	The whole office waited eagerly for the man that retired to be replaced. A tall man got interviewed on Sunday. Most people thought it very likely he would get the position.
3	As she walked through the park, she listened to the sounds around her. A laughing child was tickled in the pushchair. The children shouted and called out to each other.	As she walked through the park, she listened to the sounds around her. A laughing child got tickled in the pushchair. The children shouted and called out to each other.
4	A break-in happened at a shop during the night. A one-armed man was accused after the incident. Newspapers began writing headlines immediately.	A break-in happened at a shop during the night. A one-armed man got accused after the incident. Newspapers began writing headlines immediately.
5	Finally some people emerged from the building. A dark haired girl was greeted at the gate. She looked very happy.	Finally some people emerged from the building. A dark haired girl got greeted at the gate. She looked very happy.
6	A fire broke out in the office block. The officer was alerted during his day off. Luckily he knew what to do to evacuate everyone safely.	A fire broke out in the office block. The officer got alerted during his day off. Luckily he knew what to do to evacuate everyone safely.
7	A robbery occurred at a shop in the late evening. The thief was spotted in a dark back lane. Police chased him and caught him quickly.	A robbery occurred at a shop in the late evening. The thief got spotted in a dark back lane. Police chased him and caught him quickly.
8	In a game of hide and seek John and Jane were looking for their friends. The first of them was seen climbing into the wardrobe. The others were harder to find.	In a game of hide and seek John and Jane were looking for their friends. The first of them got seen climbing into the wardrobe. The others were harder to find.
9	There had been an accident on the mountainside. One of the climbers was found in a deserted cabin. The helicopter picked up the others shortly after.	There had been an accident on the mountainside. One of the climbers got found in a deserted cabin. The helicopter picked up the others shortly after.
10	There had been claims of a psychic in the town. The man was exposed as a fraud. He had been unable to back up his claims.	There had been claims of a psychic in the town. The man got exposed as a fraud. He had been unable to back up his claims.
11	There had been growing tensions in the office. The new recruit was dismissed at the end of the week. Things began to return to normal after that.	There had been growing tensions in the office. The new recruit got dismissed at the end of the week. Things began to return to normal after that.
12	Things had been going missing in the classroom. One of the children was blamed after looking suspicious. The missing things were never found.	Things had been going missing in the classroom. One of the children got blamed after looking suspicious. The missing things were never found.
13	A lot of gunfire flew during the mission. One of the soldiers was wounded while running for cover. His team carried him back to base to be treated.	A lot of gunfire flew during the mission. One of the soldiers got wounded while running for cover. His team carried him back to base to be treated.
14	A woman called for help when her cat became stuck in a tree. The fireman was thanked after the rescue. The cat had been very scared.	A woman called for help when her cat became stuck in a tree. The fireman got thanked after the rescue. The cat had been very scared.
15	It is necessary to apply for permission to view the ancient texts. The bearded man was rejected after his past was uncovered. He had tried to steal texts from another museum.	It is necessary to apply for permission to view the ancient texts. The bearded man got rejected after his past was uncovered. He had tried to steal texts from another museum.
16	Police took a man in to custody. The suspect was released after only an hour. It seemed he looked very similar to the real culprit.	Police took a man in to custody. The suspect got released after only an hour. It seemed he looked very similar to the real culprit.
17	A group of friends met to go to Pete's house. A guitarist was invited to the party. He entertained everyone with his skills.	A group of friends met to go to Pete's house. A guitarist got invited to the party. He entertained everyone with his skills.
18	Deliberations held up the proceedings. The criminal was killed after a long wait. Demonstrations had been occurring outside the prison for days.	Deliberations held up the proceedings. The criminal got killed after a long wait. Demonstrations had been occurring outside the prison for days.
19	A girl desperately wanted the shiny new toy. The tired mother was persuaded after much pleading. The little girl jumped happily.	A girl desperately wanted the shiny new toy. The tired mother got persuaded after much pleading. The little girl jumped happily.
20	John didn't know what he had done. He was interrogated for what seemed like hours. Suddenly he awoke and sighed with relief.	John didn't know what he had done. He got interrogated for what seemed like hours. Suddenly he awoke and sighed with relief.
21	The exam board released his results that morning. The student was congratulated after passing all the important modules. He went straight to town to celebrate with his friends.	The exam board released his results that morning. The student got congratulated after passing all the important modules. He went straight to town to celebrate with his friends.
22	The old aircraft lost all power. The pilot was captured after crash landing. We have only contacted him once since then.	The old aircraft lost all power. The pilot got captured after crash landing. We have only contacted him once since then.
23	The seas that day were very rough. The scared boy was saved after his boat overturned. He thanked the crew when he recovered.	The seas that day were very rough. The scared boy got saved after his boat overturned. He thanked the crew when he recovered.
24	The life of a soldier had been difficult during the war. The old man was haunted after the things that had happened. He regretted many things from that time.	The life of a soldier had been difficult during the war. The old man got haunted after the things that had happened. He regretted many things from that time.

Condition 2: Get>Be, without by-phrase

	First Display	*Second Display*
1	On John's route to work, he saw a closed road. A pedestrian got hit earlier that morning. The investigation continued for several days.	On John's route to work, he saw a closed road. A pedestrian was hit earlier that morning. The investigation continued for several days.
2	The whole office waited eagerly for the man that retired to be replaced. A tall man got interviewed on Sunday. Most people thought it very likely he would get the position.	The whole office waited eagerly for the man that retired to be replaced. A tall man was interviewed on Sunday. Most people thought it very likely he would get the position.
3	As she walked through the park, she listened to the sounds around her. A laughing child got tickled in the pushchair. The children shouted and called out to each other.	As she walked through the park, she listened to the sounds around her. A laughing child was tickled in the pushchair. The children shouted and called out to each other.
4	A break-in happened at a shop during the night. A one-armed man got accused after the incident. Newspapers began writing headlines immediately.	A break-in happened at a shop during the night. A one-armed man was accused after the incident. Newspapers began writing headlines immediately.
5	Finally some people emerged from the building. A dark haired girl got greeted at the gate. She looked very happy.	Finally some people emerged from the building. A dark haired girl was greeted at the gate. She looked very happy.
6	A fire broke out in the office block. The officer got alerted during his day off. Luckily he knew what to do to evacuate everyone safely.	A fire broke out in the office block. The officer was alerted during his day off. Luckily he knew what to do to evacuate everyone safely.
7	A robbery occurred at a shop in the late evening. The thief got spotted in a dark back lane. Police chased him and caught him quickly.	A robbery occurred at a shop in the late evening. The thief was spotted in a dark back lane. Police chased him and caught him quickly.
8	In a game of hide and seek John and Jane were looking for their friends. The first of them got seen climbing into the wardrobe. The others were harder to find.	In a game of hide and seek John and Jane were looking for their friends. The first of them was seen climbing into the wardrobe. The others were harder to find.
9	There had been an accident on the mountainside. One of the climbers got found in a deserted cabin. The helicopter picked up the others shortly after.	There had been an accident on the mountainside. One of the climbers was found in a deserted cabin. The helicopter picked up the others shortly after.
10	There had been claims of a psychic in the town. The man got exposed as a fraud. He had been unable to back up his claims.	There had been claims of a psychic in the town. The man was exposed as a fraud. He had been unable to back up his claims.
11	There had been growing tensions in the office. The new recruit got dismissed at the end of the week. Things began to return to normal after that.	There had been growing tensions in the office. The new recruit was dismissed at the end of the week. Things began to return to normal after that.
12	Things had been going missing in the classroom. One of the children got blamed after looking suspicious. The missing things were never found.	Things had been going missing in the classroom. One of the children was blamed after looking suspicious. The missing things were never found.
13	A lot of gunfire flew during the mission. One of the soldiers got wounded while running for cover. His team carried him back to base to be treated.	A lot of gunfire flew during the mission. One of the soldiers was wounded while running for cover. His team carried him back to base to be treated.
14	A woman called for help when her cat became stuck in a tree. The fireman got thanked after the rescue. The cat had been very scared.	A woman called for help when her cat became stuck in a tree. The fireman was thanked after the rescue. The cat had been very scared.
15	It is necessary to apply for permission to view the ancient texts. The bearded man got rejected after his past was uncovered. He had tried to steal texts from another museum.	It is necessary to apply for permission to view the ancient texts. The bearded man was rejected after his past was uncovered. He had tried to steal texts from another museum.
16	Police took a man in to custody. The suspect got released after only an hour. It seemed he looked very similar to the real culprit.	Police took a man in to custody. The suspect was released after only an hour. It seemed he looked very similar to the real culprit.
17	A group of friends met to go to Pete's house. A guitarist got invited to the party. He entertained everyone with his skills.	A group of friends met to go to Pete's house. A guitarist was invited to the party. He entertained everyone with his skills.
18	Deliberations held up the proceedings. The criminal got killed after a long wait. Demonstrations had been occurring outside the prison for days.	Deliberations held up the proceedings. The criminal was killed after a long wait. Demonstrations had been occurring outside the prison for days.
19	A girl desperately wanted the shiny new toy. The tired mother got persuaded after much pleading. The little girl jumped happily.	A girl desperately wanted the shiny new toy. The tired mother was persuaded after much pleading. The little girl jumped happily.
20	John didn't know what he had done. He got interrogated for what seemed like hours. Suddenly he awoke and sighed with relief.	John didn't know what he had done. He was interrogated for what seemed like hours. Suddenly he awoke and sighed with relief.
21	The exam board released his results that morning. The student got congratulated after passing all the important modules. He went straight to town to celebrate with his friends.	The exam board released his results that morning. The student was congratulated after passing all the important modules. He went straight to town to celebrate with his friends.
22	The old aircraft lost all power. The pilot got captured after crash landing. We have only contacted him once since then.	The old aircraft lost all power. The pilot was captured after crash landing. We have only contacted him once since then.
23	The seas that day were very rough. The scared boy got saved after his boat overturned. He thanked the crew when he recovered.	The seas that day were very rough. The scared boy was saved after his boat overturned. He thanked the crew when he recovered.
24	The life of a soldier had been difficult during the war. The old man got haunted after the things that had happened. He regretted many things from that time.	The life of a soldier had been difficult during the war. The old man was haunted after the things that had happened. He regretted many things from that time.

Condition 3: Be>Get, with by-phrase

	First Display	*Second Display*
1	On John's route to work, he saw a closed road. A pedestrian was hit by a bus. The investigation continued for several days.	On John's route to work, he saw a closed road. A pedestrian got hit by a bus. The investigation continued for several days.
2	The whole office waited eagerly for the man that retired to be replaced. A tall man was interviewed by the boss. Most people thought it very likely he would get the position.	The whole office waited eagerly for the man that retired to be replaced. A tall man got interviewed by the boss. Most people thought it very likely he would get the position.
3	As she walked through the park, she listened to the sounds around her. A laughing child was tickled by her mother. The children shouted and called out to each other.	As she walked through the park, she listened to the sounds around her. A laughing child got tickled by her mother. The children shouted and called out to each other.
4	A break-in happened at a shop during the night. A one-armed man was accused by the shopkeeper. Newspapers began writing headlines immediately.	A break-in happened at a shop during the night. A one-armed man got accused by the shopkeeper. Newspapers began writing headlines immediately.
5	Finally some people emerged from the building. A dark haired girl was greeted by a tall young boy. She looked very happy.	Finally some people emerged from the building. A dark haired girl got greeted by a tall young boy. She looked very happy.
6	A fire broke out in the office block. The officer was alerted by one of the workers. Luckily he knew what to do to evacuate everyone safely.	A fire broke out in the office block. The officer got alerted by one of the workers. Luckily he knew what to do to evacuate everyone safely.
7	A robbery occurred at a shop in the late evening. The thief was spotted by a local citizen. Police chased him and caught him quickly.	A robbery occurred at a shop in the late evening. The thief got spotted by a local citizen. Police chased him and caught him quickly.
8	In a game of hide and seek John and Jane were looking for their friends. The first of them was seen by Jane. The others were harder to find.	In a game of hide and seek John and Jane were looking for their friends. The first of them got seen by Jane. The others were harder to find.
9	There had been an accident on the mountainside. One of the climbers was found by another hiker. The helicopter picked up the others shortly after.	There had been an accident on the mountainside. One of the climbers got found by another hiker. The helicopter picked up the others shortly after.
10	There had been claims of a psychic in the town. The man was exposed by a newspaper. He had been unable to back up his claims.	There had been claims of a psychic in the town. The man got exposed by a newspaper. He had been unable to back up his claims.
11	There had been growing tensions in the office. The new recruit was dismissed by an angry boss. Things began to return to normal after that.	There had been growing tensions in the office. The new recruit got dismissed by an angry boss. Things began to return to normal after that.
12	Things had been going missing in the classroom. One of the children was blamed by the teacher. The missing things were never found.	Things had been going missing in the classroom. One of the children got blamed by the teacher. The missing things were never found.
13	A lot of gunfire flew during the mission. One of the soldiers was wounded by an enemy fighter. His team carried him back to base to be treated.	A lot of gunfire flew during the mission. One of the soldiers got wounded by an enemy fighter. His team carried him back to base to be treated.
14	A woman called for help when her cat became stuck in a tree. The fireman was thanked by the cat's owner. The cat had been very scared.	A woman called for help when her cat became stuck in a tree. The fireman got thanked by the cat's owner. The cat had been very scared.
15	It is necessary to apply for permission to view the ancient texts. The bearded man was rejected by the man in charge of the archives. He had tried to steal texts from another museum.	It is necessary to apply for permission to view the ancient texts. The bearded man got rejected by the man in charge of the archives. He had tried to steal texts from another museum.
16	Police took a man in to custody. The suspect was released by an apologetic officer. It seemed he looked very similar to the real culprit.	Police took a man in to custody. The suspect got released by an apologetic officer. It seemed he looked very similar to the real culprit.
17	A group of friends met to go to Pete's house. A guitarist was invited by one of his friends. He entertained everyone with his skills.	A group of friends met to go to Pete's house. A guitarist got invited by one of his friends. He entertained everyone with his skills.
18	Deliberations held up the proceedings. The criminal was killed by the executioner. Demonstrations had been occurring outside the prison for days.	Deliberations held up the proceedings. The criminal got killed by the executioner. Demonstrations had been occurring outside the prison for days.
19	A girl desperately wanted the shiny new toy. The tired mother was persuaded by the shop assistant. The little girl jumped happily.	A girl desperately wanted the shiny new toy. The tired mother got persuaded by the shop assistant. The little girl jumped happily.
20	John didn't know what he had done. He was interrogated by a stern man in a suit. Suddenly he awoke and sighed with relief.	John didn't know what he had done. He got interrogated by a stern man in a suit. Suddenly he awoke and sighed with relief.
21	The exam board released his results that morning. The student was congratulated by the teachers. He went straight to town to celebrate with his friends.	The exam board released his results that morning. The student got congratulated by the teachers. He went straight to town to celebrate with his friends.
22	The old aircraft lost all power. The pilot was captured by an indigenous tribe. We have only contacted him once since then.	The old aircraft lost all power. The pilot got captured by an indigenous tribe. We have only contacted him once since then.
23	The seas that day were very rough. The scared boy was saved by a brave seaman. He thanked the crew when he recovered.	The seas that day were very rough. The scared boy got saved by a brave seaman. He thanked the crew when he recovered.
24	The life of a soldier had been difficult during the war. The old man was haunted by the people he had killed. He regretted many things from that time.	The life of a soldier had been difficult during the war. The old man got haunted by the people he had killed. He regretted many things from that time.

Condition 4: Get>Be, with by-phrase

	First Display	*Second Display*
1	On John's route to work, he saw a closed road. A pedestrian got hit by a bus. The investigation continued for several days.	On John's route to work, he saw a closed road. A pedestrian was hit by a bus. The investigation continued for several days.
2	The whole office waited eagerly for the man that retired to be replaced. A tall man got interviewed by the boss. Most people thought it very likely he would get the position.	The whole office waited eagerly for the man that retired to be replaced. A tall man was interviewed by the boss. Most people thought it very likely he would get the position.
3	As she walked through the park, she listened to the sounds around her. A laughing child got tickled by her mother. The children shouted and called out to each other.	As she walked through the park, she listened to the sounds around her. A laughing child was tickled by her mother. The children shouted and called out to each other.
4	A break-in happened at a shop during the night. A one-armed man got accused by the shopkeeper. Newspapers began writing headlines immediately.	A break-in happened at a shop during the night. A one-armed man was accused by the shopkeeper. Newspapers began writing headlines immediately.
5	Finally some people emerged from the building. A dark haired girl got greeted by a tall young boy. She looked very happy.	Finally some people emerged from the building. A dark haired girl was greeted by a tall young boy. She looked very happy.
6	A fire broke out in the office block. The officer got alerted by one of the workers. Luckily he knew what to do to evacuate everyone safely.	A fire broke out in the office block. The officer was alerted by one of the workers. Luckily he knew what to do to evacuate everyone safely.
7	A robbery occurred at a shop in the late evening. The thief got spotted by a local citizen. Police chased him and caught him quickly.	A robbery occurred at a shop in the late evening. The thief was spotted by a local citizen. Police chased him and caught him quickly.
8	In a game of hide and seek John and Jane were looking for their friends. The first of them got seen by Jane. The others were harder to find.	In a game of hide and seek John and Jane were looking for their friends. The first of them was seen by Jane. The others were harder to find.
9	There had been an accident on the mountainside. One of the climbers got found by another hiker. The helicopter picked up the others shortly after.	There had been an accident on the mountainside. One of the climbers was found by another hiker. The helicopter picked up the others shortly after.
10	There had been claims of a psychic in the town. The man got exposed by a newspaper. He had been unable to back up his claims.	There had been claims of a psychic in the town. The man was exposed by a newspaper. He had been unable to back up his claims.
11	There had been growing tensions in the office. The new recruit got dismissed by an angry boss. Things began to return to normal after that.	There had been growing tensions in the office. The new recruit was dismissed by an angry boss. Things began to return to normal after that.
12	Things had been going missing in the classroom. One of the children got blamed by the teacher. The missing things were never found.	Things had been going missing in the classroom. One of the children was blamed by the teacher. The missing things were never found.
13	A lot of gunfire flew during the mission. One of the soldiers got wounded by an enemy fighter. His team carried him back to base to be treated.	A lot of gunfire flew during the mission. One of the soldiers was wounded by an enemy fighter. His team carried him back to base to be treated.
14	A woman called for help when her cat became stuck in a tree. The fireman got thanked by the cat's owner. The cat had been very scared.	A woman called for help when her cat became stuck in a tree. The fireman was thanked by the cat's owner. The cat had been very scared.
15	It is necessary to apply for permission to view the ancient texts. The bearded man got rejected by the man in charge of the archives. He had tried to steal texts from another museum.	It is necessary to apply for permission to view the ancient texts. The bearded man was rejected by the man in charge of the archives. He had tried to steal texts from another museum.
16	Police took a man in to custody. The suspect got released by an apologetic officer. It seemed he looked very similar to the real culprit.	Police took a man in to custody. The suspect was released by an apologetic officer. It seemed he looked very similar to the real culprit.
17	A group of friends met to go to Pete's house. A guitarist got invited by one of his friends. He entertained everyone with his skills.	A group of friends met to go to Pete's house. A guitarist was invited by one of his friends. He entertained everyone with his skills.
18	Deliberations held up the proceedings. The criminal got killed by the executioner. Demonstrations had been occurring outside the prison for days.	Deliberations held up the proceedings. The criminal was killed by the executioner. Demonstrations had been occurring outside the prison for days.
19	A girl desperately wanted the shiny new toy. The tired mother got persuaded by the shop assistant. The little girl jumped happily.	A girl desperately wanted the shiny new toy. The tired mother was persuaded by the shop assistant. The little girl jumped happily.
20	John didn't know what he had done. He got interrogated by a stern man in a suit. Suddenly he awoke and sighed with relief.	John didn't know what he had done. He was interrogated by a stern man in a suit. Suddenly he awoke and sighed with relief.
21	The exam board released his results that morning. The student got congratulated by the teachers. He went straight to town to celebrate with his friends.	The exam board released his results that morning. The student was congratulated by the teachers. He went straight to town to celebrate with his friends.
22	The old aircraft lost all power. The pilot got captured by an indigenous tribe. We have only contacted him once since then.	The old aircraft lost all power. The pilot was captured by an indigenous tribe. We have only contacted him once since then.
23	The seas that day were very rough. The scared boy got saved by a brave seaman. He thanked the crew when he recovered.	The seas that day were very rough. The scared boy was saved by a brave seaman. He thanked the crew when he recovered.
24	The life of a soldier had been difficult during the war. The old man got haunted by the people he had killed. He regretted many things from that time.	The life of a soldier had been difficult during the war. The old man was haunted by the people he had killed. He regretted many things from that time.

Appendix 3 - Materials for Experiment 3 (Chapter 7)

Conditions: 1= be without by; 2 = be with by; 3 = get without by; 4 = get with by

Item	Condition	Prime	Target
1	1	The actor was arrested at the weekend.	chase1_l.bmp
1	2	The actor was arrested by an officer.	chase1_l.bmp
1	3	The actor got arrested at the weekend.	chase1_r.bmp
1	4	The actor got arrested by an officer.	chase1_r.bmp
2	1	The tramp was kicked during the night.	chase2_l.bmp
2	2	The tramp was kicked by a youth.	chase2_l.bmp
2	3	The tramp got kicked during the night.	chase2_r.bmp
2	4	The tramp got kicked by a youth.	chase2_r.bmp
3	1	The athlete was attacked before the race.	chase3_l.bmp
3	2	The athlete was attacked by a builder.	chase3_l.bmp
3	3	The athlete got attacked before the race.	chase3_r.bmp
3	4	The athlete got attacked by a builder.	chase3_r.bmp
4	1	The scientist was called after the incident.	kick1_l.bmp
4	2	The scientist was called by an assistant.	kick1_l.bmp
4	3	The scientist got called after the incident.	kick1_r.bmp
4	4	The scientist got called by an assistant.	kick1_r.bmp
5	1	The courier was caught during the storm.	kick2_l.bmp
5	2	The courier was caught by a hunter.	kick2_l.bmp
5	3	The courier got caught during the storm.	kick2_r.bmp
5	4	The courier got caught by a hunter.	kick2_r.bmp
6	1	The attendant was fired at the party.	kick3_l.bmp
6	2	The attendant was fired by the manager.	kick3_l.bmp
6	3	The attendant got fired at the party.	kick3_r.bmp
6	4	The attendant got fired by the manager.	kick3_r.bmp
7	1	The chemist was hit before the meeting.	pull1_l.bmp
7	2	The chemist was hit by a motorist.	pull1_l.bmp
7	3	The chemist got hit before the meeting.	pull1_r.bmp
7	4	The chemist got hit by a motorist.	pull1_r.bmp
8	1	The spy was killed after the explosion.	pull2_l.bmp
8	2	The spy was killed by a guard.	pull2_l.bmp
8	3	The spy got killed after the explosion.	pull2_r.bmp
8	4	The spy got killed by a guard.	pull2_r.bmp
9	1	The author was paid during the holidays.	pull3_l.bmp
9	2	The author was paid by the publisher.	pull3_l.bmp
9	3	The author got paid during the holidays.	pull3_r.bmp
9	4	The author got paid by the publisher.	pull3_r.bmp
10	1	The lawyer was hired before the hearing.	punch1_l.bmp
10	2	The lawyer was hired by a killer.	punch1_l.bmp
10	3	The lawyer got hired before the hearing.	punch1_r.bmp
10	4	The lawyer got hired by a killer.	punch1_r.bmp
11	1	The ninja was shot at sundown.	punch2_l.bmp
11	2	The ninja was shot by a sniper.	punch2_l.bmp
11	3	The ninja got shot at sundown.	punch2_r.bmp
11	4	The ninja got shot by a sniper.	punch2_r.bmp
12	1	The prisoner was released after the appeal.	punch3_l.bmp
12	2	The prisoner was released by the warden.	punch3_l.bmp
12	3	The prisoner got released after the appeal.	punch3_r.bmp
12	4	The prisoner got released by the warden.	punch3_r.bmp
13	1	The waiter was detained during the dinner.	push1_l.bmp
13	2	The waiter was detained by the sheriff.	push1_l.bmp
13	3	The waiter got detained during the dinner.	push1_r.bmp
13	4	The waiter got detained by the sheriff.	push1_r.bmp
14	1	The runner was pushed at lunchtime.	scold1_l.bmp
14	2	The runner was pushed by the singer.	scold1_l.bmp
14	3	The runner got pushed at lunchtime.	scold1_r.bmp
14	4	The runner got pushed by the singer.	scold1_r.bmp
15	1	The juror was punched before the deliberation.	push3_l.bmp
15	2	The juror was punched by the defendant.	push3_l.bmp
15	3	The juror got punched before the deliberation.	push3_r.bmp
15	4	The juror got punched by the defendant.	push3_r.bmp
16	1	The nurse was rung after midnight.	push2_l.bmp
16	2	The nurse was rung by the surgeon.	push2_l.bmp
16	3	The nurse got rung after midnight.	push2_r.bmp
16	4	The nurse got rung by the surgeon.	push2_r.bmp
17	1	The burglar was trapped during the robbery.	scold2_l.bmp
17	2	The burglar was trapped by a janitor.	scold2_l.bmp
17	3	The burglar got trapped during the robbery.	scold2_r.bmp

17	4	The burglar got trapped by a janitor.	scold2_r.bmp
18	1	The reporter was sacked at noon.	scold3_l.bmp
18	2	The reporter was sacked by the editor.	scold3_l.bmp
18	3	The reporter got sacked at noon.	scold3_r.bmp
18	4	The reporter got sacked by the editor.	scold3_r.bmp
19	1	The cyclist was slapped before the end.	shoot1_l.bmp
19	2	The cyclist was slapped by the guitarist.	shoot1_l.bmp
19	3	The cyclist got slapped before the end.	shoot1_r.bmp
19	4	The cyclist got slapped by the guitarist.	shoot1_r.bmp
20	1	The presenter was murdered after the show.	shoot2_l.bmp
20	2	The presenter was murdered by a traveller.	shoot2_l.bmp
20	3	The presenter got murdered after the show.	shoot2_r.bmp
20	4	The presenter got murdered by a traveller.	shoot2_r.bmp
21	1	The photographer was compensated during the negotiation.	shoot3_l.bmp
21	2	The photographer was compensated by the newspaper.	shoot3_l.bmp
21	3	The photographer got compensated during the negotiation.	shoot3_r.bmp
21	4	The photographer got compensated by the newspaper.	shoot3_r.bmp
22	1	The secretary was appointed at the conference.	tickle1_l.bmp
22	2	The secretary was appointed by the director.	tickle1_l.bmp
22	3	The secretary got appointed at the conference.	tickle1_r.bmp
22	4	The secretary got appointed by the director.	tickle1_r.bmp
23	1	The hiker was stabbed before dawn.	tickle2_l.bmp
23	2	The hiker was stabbed by a hunter.	tickle2_l.bmp
23	3	The hiker got stabbed before dawn.	tickle2_r.bmp
23	4	The hiker got stabbed by a hunter.	tickle2_r.bmp
24	1	The captive was freed after dusk.	tickle3_l.bmp
24	2	The captive was freed by the kidnapper.	tickle3_l.bmp
24	3	The captive got freed after dusk.	tickle3_r.bmp
24	4	The captive got freed by the kidnapper.	tickle3_r.bmp

Appendix 4 - Materials for Experiment 4 (Chapter 8)

Negative event; active-voice

In this city, many people work in office blocks in the centre. One company employed over a hundred people, with one particular office consisting of around forty people. Last week the management fired a woman. The other employees discussed it during breaks and over lunch.

Negative event; be-passive

In this city, many people work in office blocks in the centre. One company employed over a hundred people, with one particular office consisting of around forty people. Last week a woman was fired by the management. The other employees discussed it during breaks and over lunch.

Negative event; get-passive

In this city, many people work in office blocks in the centre. One company employed over a hundred people, with one particular office consisting of around forty people. Last week a woman got fired by the management. The other employees discussed it during breaks and over lunch.

Positive event; active voice

Rivers everywhere burst their banks after a heavy rain fell all night and caused widespread flooding. Many people faced the danger of drowning in the fast currents. In a wide countryside river, the emergency services rescued a man. Newspapers covered the story up and down the country.

Positive event; be-passive

Rivers everywhere burst their banks after a heavy rain fell all night and caused widespread flooding. Many people faced the danger of drowning in the fast currents. In a wide countryside river, a man was rescued by the emergency services. Newspapers covered the story up and down the country.

Positive event; get-passive

Rivers everywhere burst their banks after a heavy rain fell all night and caused widespread flooding. Many people faced the danger of drowning in the fast currents. In a wide countryside river, a man got rescued by the emergency services. Newspapers covered the story up and down the country.

Appendix 5 - Materials for Experiment 5 (Chapter 9)

Conditions: 1= patient given, patient focussed; 2 = agent given, patient focussed; 3 = patient given, agent focussed; 4 = agent given, agent focussed

Item	Condition	Prime
1	1	The actor came to the end of a long day on the set. It was him who an officer arrested that day.
1	2	The officer began his shift late in the day. It was an actor who he arrested that day.
1	3	The actor came to the end of a long day on the set. It was an officer who arrested him that day.
1	4	The officer began his shift late in the day. It was him who arrested an actor that day.
2	1	The tramp searched the streets for a quiet place to weather the night. It was him who a youth kicked in an alley.
2	2	The youth wandered the streets looking to cause trouble. It was a tramp who he kicked in an alley.
2	3	The tramp searched the streets for a quiet place to weather the night. It was a youth who kicked him in an alley.
2	4	The youth wandered the streets looking to cause trouble. It was him who kicked a tramp in an alley.
3	1	The cowboy rode across the desert into the small dusty town. It was him who a thief attacked upon arriving.
3	2	The thief made her way through the sandstorm to a small town. It was a cowboy who she attacked upon arriving.
3	3	The cowboy rode across the desert into the small dusty town. It was a thief who attacked him upon arriving.
3	4	The thief made her way through the sandstorm to a small town. It was her who attacked a cowboy upon arriving.
4	1	The scientist spent the day categorising all the new finds her team had made. It was her who an assistant called for information.
4	2	The assistant spend her day working on a the new finds from that week. It was a scientist who she called for information.
4	3	The scientist spent the day categorising all the new finds her team had made. It was an assistant who called her for information.
4	4	The assistant spend her day working on a the new finds from that week. It was her who called a scientist for information.
5	1	The courier carried important packages across the wasteland, sometimes exposing him to danger. It was him who a hunter caught during a recent trip.
5	2	The hunter scoured the wastes for unsuspecting caravans and abandoned homes. It was a courier who he caught during a recent trip.
5	3	The courier carried important packages across the wasteland, sometimes exposing him to danger. It was a hunter who caught him during a recent trip.
5	4	The hunter scoured the wastes for unsuspecting caravans and abandoned homes. It was him who caught a courier during a recent trip.
6	1	The soldier served rather unwillingly in a multi-national corporation. It was him who the manager fired just the other day.
6	2	The manager ran his far-reaching company very strictly. It was a soldier who he fired just the other day.
6	3	The soldier served rather unwillingly in a multi-national corporation. It was the manager who fired him just the other day.
6	4	The manager ran his far-reaching company very strictly. It was him who fired a solider just the other day.
7	1	The chemist enjoyed the scenery as he walked home from work. It was him who a motorist suddenly hit on a quiet road.
7	2	The motorist drove along some of the quieter roads in the town. It was a chemist who he suddenly hit on a quiet road.
7	3	The chemist enjoyed the scenery as he walked home from work. It was a motorist who suddenly hit him on a quiet road.
7	4	The motorist drove along some of the quieter roads in the town. It was him who suddenly hit a chemist on a quiet road.
8	1	The spy crawled through the vent into the heart of the dam complex. It was him who a guard killed at the entrance of the bottling room.
8	2	The guard prowled the metal hallways of the secret structure below the dam. It was a spy who he killed at the entrance of the bottling room.
8	3	The spy crawled through the vent into the heart of the dam complex. It was a guard who killed him at the entrance of the bottling room.
8	4	The guard prowled the metal hallways of the secret structure below the dam. It was him who killed a spy at the entrance of the bottling room.
9	1	The author had recently finalised a manuscript for submission. It was him who the publisher paid after some formal checks.
9	2	The publisher had commissioned a new piece for his autumn releases. It was the author who he paid after some formal checks.
9	3	The author had recently finalised a manuscript for submission. It was the publisher who paid him after some formal checks.
9	4	The publisher had commissioned a new piece for his autumn releases. It was him who paid the author after some formal checks.
10	1	The lawyer worked many difficult cases in the big commercial city. It was him who a killer hired a few weeks ago.
10	2	The killer knew he was in trouble and needed to do something about it quickly. It was a lawyer who he hired a few weeks ago.
10	3	The lawyer worked many difficult cases in the big commercial city. It was a killer who hired him a few weeks ago.
10	4	The killer knew he was in trouble and needed to do something about it quickly. It was him who hired a lawyer a few weeks ago.
11	1	The ninja could sneak through any room undetected, hiding in the shadows. It was him who a sniper shot while emerging from a doorway.
11	2	The sniper lay silently on the rooftop, unmoved by the harsh weather. It was a ninja who he shot while emerging from a doorway.
11	3	The ninja could sneak through any room undetected, hiding in the shadows. It was a sniper who shot him while emerging from a doorway.
11	4	The sniper lay silently on the rooftop, unmoved by the harsh weather. It was him who shot a ninja while emerging from a doorway.
12	1	The prisoner had remained in jail for many long years. It was him who the warden released after the recent parole hearing.
12	2	The warden had run this jail for decades and had overseen many changes. It was the prisoner who he released after the recent parole hearing.
12	3	The prisoner had remained in jail for many long years. It was the warden who released him after the recent parole hearing.
12	4	The warden had run this jail for decades and had overseen many changes. It was him who released a prisoner after the recent parole hearing.
13	1	The waiter had not worked at the restaurant for long, but suspicions had already arisen. It was him who the sheriff detained today.
13	2	The sheriff had almost finished a very long day, but had one last stop to make. It was a waiter who he detained today.
13	3	The waiter had not worked at the restaurant for long, but suspicions had already arisen. It was the sheriff who detained him today.
13	4	The sheriff had almost finished a very long day, but had one last stop to make. It was him who detained a waiter today.
14	1	The runner had many menial tasks and duties backstage at the concert. It was him who the singer pushed after a frustrating day.
14	2	The singer became angry after technical problems had delayed their performance. It was a runner who he pushed after a

		frustrating day.
14	3	The runner had many menial tasks and duties backstage at the concert. It was the singer who pushed him after a frustrating day.
14	4	The singer became angry after technical problems had delayed their performance. It was him who pushed a runner after a frustrating day.
15	1	The juror listened to a very difficult case which took weeks to concluded. It was him who the defendant punched in the closing days.
15	2	The defendant sat emotionless through most of his lengthy trial. It was a juror who he punched in the closing days.
15	3	The juror listened to a very difficult case which took weeks to concluded. It was the defendant who punched him in the closing days.
15	4	The defendant sat emotionless through most of his lengthy trial. It was him who punched a juror in the closing days.
16	1	The nurse spent her day off at home catching up on the TV shows she had missed. It was her who the surgeon rang urgently.
16	2	The surgeon knew it would be a long shift as news of a terrible accident reached him. It was the nurse who he rang urgently.
16	3	The nurse spent her day off at home catching up on the TV shows she had missed. It was the surgeon who rang her urgently.
16	4	The surgeon knew it would be a long shift as news of a terrible accident reached him. It was him who rang a nurse urgently.
17	1	The burglar hid the stolen items and tried to blend in with the other people in the street. It was him who a policeman trapped in an alley.
17	2	The policeman heard that a robbery had taken place a few streets away. It was a robber who he trapped in an alley.
17	3	The burglar hid the stolen items and tried to blend in with the other people in the street. It was a policeman who trapped him in an alley.
17	4	The policeman heard that a robbery had taken place a few streets away. It was him who trapped a robber in an alley.
18	1	The reporter tried desperately to hunt down a good story but without success. It was him who the editor sacked for poor performance.
18	2	The editor enforced strict deadlines and demanded quality stories from all staff. It was a reporter who he sacked for poor performance.
18	3	The reporter tried desperately to hunt down a good story but without success. It was the editor who sacked him for poor performance.
18	4	The editor enforced strict deadlines and demanded quality stories from all staff. It was him who sacked a reporter for poor performance.
19	1	The pupil disliked the the lessons so she talked and laughed loudly. It was her who the teacher slapped for causing disruption.
19	2	The teacher hoped to inform the unruly class about history and geography. It was a pupil who she slapped for causing disruption.
19	3	The pupil disliked the the lessons so she talked and laughed loudly. It was the teacher who slapped her for causing disruption.
19	4	The teacher hoped to inform the unruly class about history and geography. It was her who slapped a pupil for causing disruption.
20	1	The doctor had worked at the mental asylum for many years and was well known. It was him who a patient murdered during a routine checkup.
20	2	The patient had resided at the mental hospital for many long years. It was a doctor who he murdered during a routine checkup.
20	3	The doctor had worked at the mental asylum for many years and was well known. It was a patient who murdered him during a routine checkup.
20	4	The patient had resided at the mental hospital for many long years. It was him who murdered a doctor during a routine checkup.
21	1	The photographer had managed to capture some clear and compromising pictures. It was him who the celebrity compensated him to avoid publication.
21	2	The celebrity liked to control the pictures and information that magazines printed about her. It was a photographer who she compensated to avoid publication.
21	3	The photographer had managed to capture some clear and compromising pictures. It was the celebrity who compensated him to avoid publication.
21	4	The celebrity liked to control the pictures and information that magazines printed about her. It was her who compensated a photographer to avoid publication.
22	1	The secretary had attended interviews at several businesses in the financial district. It was her who a director appointed with a pleasing salary.
22	2	The director found it very difficult to keep with his work when he had so much admin to attend to. It was a secretary who he appointed with a pleasing salary.
22	3	The secretary had attended interviews at several businesses in the financial district. It was a director who appointed her with a pleasing salary.
22	4	The director found it very difficult to keep with his work when he had so much admin to attend to. It was him who appointed a secretary with a pleasing salary.
23	1	The hiker spent his day moving up the mountain towards base camp. It was him who a hunter stabbed among the dense trees.
23	2	The hunter had spent ages in the forest and began to get disorientated. It was a hiker who he stabbed among the dense trees.
23	3	The hiker spent his day moving up the mountain towards base camp. It was a hunter who stabbed him among the dense trees.
23	4	The hunter had spent ages in the forest and began to get disorientated. It was him who stabbed a hiker among the dense trees.
24	1	The captive endured a long time not knowing what would happen to him. It was him who the kidnapper freed eventually.
24	2	The kidnapper had held himself together and made his demands. It was the captive who he freed eventually.
24	3	The captive endured a long time not knowing what would happen to him. It was the kidnapper who freed him eventually.
24	4	The kidnapper had held himself together and made his demands. It was him who freed the captive eventually.

Appendix 6 - Materials for Experiment 6 (Chapter 11)

Item	Positive Intention	Negative Intention	Zero Intention
01	John had seen loads of adverts about accident compensation and thought about planning something foolish. Later that week he ___ hit by a bus. Suspicions were raised and the investigation continued for several days.	John was very careful about crossing the road, so he always looked both ways more than once. Somehow, last week he ___ hit by a bus. His friends were especially shocked, as they knew he was slightly obsessive about crossing safely.	John's route to work was long, but parts of it took in some lovely scenery. Last week, on his normal route, he ___ hit by a bus. Many of his colleagues visited him while he slowly recovered in bed.
02	The game of 'hide and seek' was far too slow and Sara decided to end it. Before long she ___ seen by her brother. Finally they could play a different game!	Sara was enjoying the game of 'hide and seek' and wanted to keep hiding all day. Before long she ___ seen by her brother. After that they had to play a different game.	Sara and the other children were playing a game of 'hide and seek'; they enjoyed hiding, as well as being found. Before long she ___ seen by her brother. The game continued all afternoon.
03	The man realised he had nowhere to go and decided to run out in front of the armed police. Immediately there were several bright flashes as he ___ shot by the waiting officers. In America they call it 'Suicide by Cop'.	The man had heard gunfire and, not wanting to get involved, ran out from the building. Suddenly there were several bright flashes as he ___ shot by the waiting officers. Sadly, he had just been in the wrong place at the wrong time.	A man finished work and left the building through one of the small side doors. Without warning, he ___ shot by the waiting officers. Later in hospital, his friends told him about the mistakes that had lead up to his accidental shooting.
04	A huge flood had trapped Gerald and he desperately did everything he could to draw attention. It was only a short time before he ___ rescued by a helicopter team. On dry land everyone welcomed him back with teary eyes.	A huge flood had trapped Gerald but he decided to hide himself from the search teams. It was only a short time before he ___ rescued by a helicopter team. Later he saw how foolish it had been to want to die.	In a huge flood Gerald had been knocked unconscious by a strong wave. It was only a short time before he ___ rescued by a helicopter team. People on the shore had been extremely worried about him and were ecstatic to see him.
05	The little girl had been playing in the mud and disliked being so dirty. As soon as she went in the house she ___ cleaned by her mother. Once she was dry again, she could play new games.	The little girl was covered in muck but tried to sneak to her room to avoid a bath. As soon as she went in the house she ___ cleaned by her mother. She complained all the way through her bath.	The little girl had been playing with her friends all afternoon and was getting tired. As soon as she went in the house she ___ cleaned by her mother. Once she was dry, she fell asleep very quickly.
06	Paul was desperate to get the new position and begged people to put in a good word for him. Just before the boss was due to interview him, he ___ recommended by a friend. It seemed to help, as he got offered the job a few days later.	Paul didn't like when someone formed an opinion of him before they actually met. Before the boss was due to interview him, he ___ recommended by a friend. Paul was annoyed, though he did get the job in the end.	Paul knew a couple of people at the company he had just applied to. Before the boss was due to interview him, he ___ recommended by a friend. Paul never found out about the recommendation as he decided to accept a position elsewhere.
07	Andrew found himself lost in the dense jungle and he tried to remain still as some large animals approached. As he sat there, he ___ ignored by the passing creatures. Unfortunately he didn't really feel any safer, not knowing when they might return.	Andrew had been trying to photograph some rare animals and tried several things to draw their attention. As he sat there, he ___ ignored by the passing creatures. Annoyed, he packed up his things and gave up for the day.	Andrew sat writing his notes, unaware of the dangerous animals that were nearby. As he sat there, he ___ ignored by the passing creatures. He was very lucky not to have made sudden movements to draw their attention.
08	Jenny wanted to become part of a specific group of friends at her new school and tried to impress them. By the end of the week she ___ accepted by the group. She was so surprised to enter their circle so quickly.	There was one specific group of friends Jenny wanted to avoid and tried to do things they would dislike. Yet, by the end of the week she ___ accepted by the group. They had totally misinterpreted her actions.	At Jenny's new school there was a group of friends that everyone wanted to be a part of. After just a few weeks she ___ accepted by the group. She didn't know why they let her join, but she was happy to have some new friends.
09	As a power-up, the fire flower wanted to help the hero of the game and so it tried to draw attention to itself from on top of a block. The music changed as the power-up ___ collected by Mario. The fire flower was able to aid in the quest for the princess.	As a power-up, the fire flower wanted to avoid the hero of the game and hid inside a block. The music changed as the power-up ___ collected by Mario. The fire flower was just one of many power-ups that had tried to hide and failed.	As a power-up, the fire flower simply sat quietly on top of a block watching the world scroll by. The music changed as the power-up ___ collected by Mario. With the extra power, the game became a bit easier for a while.
10	Something had gone missing in the classroom and Amy wanted to protect her friend, so she acted suspiciously. She couldn't help crying when she ___ blamed by the teacher. Even though it was what she had intended, she still felt upset.	Amy had stolen something from the classroom and tried to avoid being caught. She couldn't help crying when she ___ blamed by the teacher. She was annoyed to be caught, but also started to feel slightly guilty.	Unknown to Amy, some things had gone missing from the classroom. She couldn't help crying when she ___ blamed by the teacher. She was very annoyed as she could see no basis for the accusation, but the teacher would not listen to her.
11	Peter had not been looking forward to playing sports again, so he tried to irritate the other players. Before the game began, he ___ removed by his teammates. Peter gladly walked away and watched from the sidelines.	Peter desperately wanted to play in the next match and tried to impress the other players. Before the game began, he ___ removed by his teammates. Peter was hurt and disappointed, and had to simply watch from the sidelines.	There were too many players to take part in the next match and Peter wondered who would have to go. Before the game began, he ___ removed by his teammates. For this match he watched from the stands instead of playing.
12	After realising she hadn't been asked to go to the party, Jenny did everything she could to appeal to those who were going. Late in the afternoon she ___ invited by the guy who had organised it. She was so pleased that she ran off to prepare immediately.	Jenny knew there was a party happening and she was doing her best to avoid having to go. Late in the afternoon she ___ invited by the guy who had organised it. It would be rude to say no, so she pretended to be excited.	A party had been planned for later that night, but Jenny had no idea who was going. Late in the afternoon she ___ invited by the guy who had organised it. She didn't know him too well, but he seemed quite calm and friendly.
13	Jack knew he needed to draw attention away from his partner's position, so he made a run between the destroyed buildings. As he moved across the gap he ___ noticed by the enemy snipers. His partner was able to spot them and take them out.	Jack knew he was cornered and needed to move without being seen, so he made a run between two old buildings. As he moved across the gap he ___ noticed by the enemy snipers. The shots forced him to dive for cover again.	Jack was lost in the ruins of the bombed city and slowly passed between the deserted buildings. As he moved across a gap he ___ noticed by the enemy snipers. He had had no idea they were there and quickly ran for cover.
14	Laura was desperate for recognition and sought publicity at any event she attended, usually speaking with the organisers beforehand. At last month's conference she ___ mentioned by the first speaker. She glowed with pride at her skills of persuasion.	Laura had done a lot of great research but disliked public praise, so she always tried to persuade organisers to avoid referencing her. At last month's conference she ___ mentioned by the first speaker. She felt annoyed, but couldn't help a small rush of pride.	Laura does research at the local university, usually gathering data from undergraduates desperate for money. At last month's conference she ___ mentioned by the first speaker. Her research was quite well known by those within her field.
15	Andy had joined Twitter to expand his following and told all his friends to take a look at his feed and add him. After a few days he ___ followed by numerous people. He hoped to eventually persuade everyone he knew to follow him.	Andy had joined Twitter to use it as a sort of news source, but tried to use a name that would avoid followers. After a few days he ___ followed by numerous people. He was quite sure he knew none of them, but he started a different account anyway.	Andy spent a lot of time online, usually playing online multiplayer games, but recently he signed up to Twitter. After a few days he ___ followed by numerous people. He never realised as he was too engrossed in levelling up his character.
16	The chest wanted to reveal its treasure and made itself shine brightly to attract passers-by. Eventually it ___ opened by an adventurer. The chest had achieved its purpose.	The chest wanted to conceal its treasure and made itself dull to avoid passers-by. Eventually it ___ opened by an adventurer. The chest had failed in its purpose.	A chest sat motionless in the empty dungeon, wondering if anyone would ever pass by. Eventually it ___ opened by an adventurer. There had been a great treasure hidden inside it all along.
17	Saria loved the TV show 'QI' and wanted to see her name in the credits, so she constantly emailed them bits of her work. After many months, she ___ quoted by the researchers. She had finally persuaded the show to use some of her material and she was delighted.	Saria loved working for the TV show 'QI' but wanted to keep her name out of the credits and stay anonymous. After many months, she ___ quoted by the researchers. She was annoyed at the slip by the team and clearly voiced her opinion.	Saria had a large number of papers and books to her name and she once spoke with a researcher from the TV series 'QI'. After many months, she ___ quoted by the researchers. She was quite surprised to see her name in the credits of the show.
18	As a new comedian, Russell seemed to receive little attention from the press, so he made a point of drawing their attention to his latest show. By the end of the week he ___ reviewed by several journalists. He hoped this would bring him wider recognition.	As a comedian, Russell wanted to avoid any attention from journalists and tried to discourage articles about his latest show. By the end of the week he ___ reviewed by several journalists. He decided not to read the articles, even if they were supportive.	As a new comedian, Russell played at numerous venues; his latest was a couple of days at a small club. By the end of the week he ___ reviewed by several journalists. His next small gig was still several weeks away.
19	As a popular robot, Bender felt that he could do with a bit extra height to allow more people to easily appreciate him. At a local garage, he ___ extended by the mechanic. He now stood tall enough in a crowd to be seen by everyone.	As a popular robot, Bender knew that his appearance was perfect and he made sure it was never altered. At a local garage, he ___ extended by the mechanic. Bender was horrified to be told the alteration was a necessary part of upgrade 2.2.01.	As a popular robot, Bender always made sure he had the latest updates installed as soon as they were released. At a local garage, he ___ extended by the mechanic. The addition of height was a necessary part of upgrade 2.2.01.

20	James taught undergraduates about phonology, and was very keen to make sure his teaching style was as good as it could be. Though there were several weeks before the next official report, he ___ evaluated by a senior member of staff. He thought it too long to wait weeks for feedback.	James taught undergraduates about phonology, but was very keen to avoid any review of his teaching style. Though there were several weeks before the next official report, he ___ evaluated by a senior member of staff. The surprise inspection made him very nervous and his teaching suffered.	James was a phonology teacher with a class of both undergraduates and mature students. Though there were several weeks before the next official report, he ___ evaluated by a senior member of staff. At his university, many things seemed to get rescheduled at short notice, which was a bit inconvenient.
21	The legendary creature, Ho-oh, had grown tired of endlessly riding the winds above Johto and looked for someone worthy of catching it. Just north of Goldenrod city, it ___ caught by a young trainer. It was glad to have found someone to stay with.	The legendary creature, Ho-oh, rode the winds above Johto and wanted to remain free, so it mostly avoided people. Just north of Goldenrod city, it ___ caught by a young trainer. It was annoyed to have been caught, but was willing to stay with the trainer.	Johto is home to several legendary creatures, such as Ho-oh, which rides the winds above the land. Just north of Goldenrod city, it ___ caught by a young trainer. The trainer had now caught two legendary birds in that region.
22	A spirit in the Gerudo wasteland was stuck due to the strange winds of the place and so he actively made signs in hope of being seen. After many years he ___ discovered by a wise traveller. The spirit's signs had worked, and now he needed the traveller's help.	A spirit in the Gerudo wasteland drifted across the dunes, hiding from anyone who passed through the desert. After many years he ___ discovered by a wise traveller. The spirit was angered, yet also impressed that anyone had managed to see him.	A spirit haunted the sands of the Gerudo wasteland, drifting through the endless dunes with a silent sadness. After many years he ___ discovered by a wise traveller. However, the spirit no longer wished to speak or stay with other people.
23	Michael was going deep undercover and needed to spend time in prison, so he held up a bank but made sure to still be there when the police arrived. Immediately he ___ arrested by the officers. The plan wasn't exactly difficult to pull off up to that point.	Michael had been robbing a bank and knew he needed to get out before the police arrived so he hurried out the entrance and ran into a side street. Immediately he ___ arrested by the officers. They had been alerted by the silent alarm system.	Michael's route to work was quite long and today he chose to take a short cut through a housing estate, where he noticed a high police presence. Immediately he ___ arrested by the officers. It later was revealed to be a case of mistaken identitiy.
24	The company was in a desperate financial situation and sought help from numerous sources. By the end of the month, it ___ nationalised by the government. The company's future became somewhat more secure.	The company was in a bad situation but still it wanted to remain independent. By the end of the month, it ___ nationalised by the government. The company had failed to protect itself, but at least its future was now more secure.	The company had existed for decades and had a proud tradition amongst its employees. By the end of the month, it ___ nationalised by the government. Workers hoped that this would not result in any sizeable changes.
25	As a new singer, Emma felt unknown, so she decided to get her picture in the press. Just yesterday, she ___ photographed by a local paper. The publicity would hopefully help her career to grow.	As a singer, Emma hated seeing her picture in the press and always tried to avoid being spotted. Just yesterday, she ___ photographed by a local paper. She was irritated and decided to stay indoors for a few days.	Emma was a new singer with quite an individual style and she had already gained a large following. Just yesterday, she ___ photographed by a local paper. Her first big show had already sold out.
26	Phil was on an adventure holiday about to do a parachute jump, but couldn't let go and asked for a little assistance in leaving the plane. Moments later he ___ pushed by the jump organiser. He was glad to have asked; the experience was amazing.	Phil was on an adventure holiday about to do a parachute jump, and asked for some time before leaping out. Moments later he ___ pushed by the jump organiser. He was terrified, but managed to focus and land safely.	Phil was on a plane with several other people, all about to do a parachute jump, and he was wondering when his turn was. Moments later he ___ pushed by the jump organiser. Falling out of a plane was a pretty clear indication that it was his turn.
27	A new rock group was seeking attention and made numerous requests to places to air their songs. After a week or two, the band ___ played by the local radio station. They were pleased that their persistence had paid off and were happy with the added publicity.	A new rock group was keen to remain underground and discouraged places from airing their songs. After a week or two, the band ___ played by the local radio station. They complained but the resulting disagreement simply brought further publicity.	A new rock group had been playing gigs around town in several different types of venue. After a week or two, the band ___ played by the local radio station. Their music had a wide appeal and demand grew for extra dates on their small tour.
28	Maria wanted to leave her job but, not knowing how to say she quit, went about things in a slightly different manner. In a short time, she ___ fired by her boss. The plan had worked, and she'd had a laugh at the same time.	Maria hated her job but really needed it so she did everything to try to gain favour and respect in the company. In a short time, she ___ fired by her boss. She was devastated and wondered if her actions had been the ultimate cause.	Maria had started working for a large company in the city centre that dealt with clients from all over the world. In a short time, she ___ fired by her boss. The company was facing difficult times and had to downsize its workforce.
29	The dwarf was ashamed to admit it, but he knew he couldn't jump the distance and asked for a hand. Without a moment's pause, he ___ thrown by the elf. He regretted his request when he landed on poor footing.	The dwarf was not sure he could jump the distance, but he asked not to be helped, so he paused to prepare himself. Without a moment's pause, he ___ thrown by the elf. He was so taken by surprise that he landed on poor footing.	At a gap in the stone stairway, which the travellers had to jump, the dwarf looked concerned. Without a moment's pause, he ___ thrown by the elf. Despite his shock, he carried on down the stairs towards the great bridge.
30	The team Bill played for were not doing great, so they made a plan to try to have one of the opposing team's players sent off. When the game started, he ___ knocked over by an opponent. The plan worked and that player was sent off for a foul.	Bill was not physically 100% at the moment, so he tried to be particularly careful during the game. When the game started, he ___ knocked over by an opponent. Unfortunately this made him miss the next few matches.	Today the team was low on players, so they had to send on Bill for the first time. When the game started, he ___ knocked over by an opponent. The game was generally quite rough, though there were no serious injuries this time.
31	Simon disliked the food at his friend's house so he asked his family to feed him at home. Before he went out, he ___ fed by his mother. He was relieved that she had listened to his request so he could have a more enjoyable time at his friend's.	Simon hated having to eat before heading over to his friend's house and tried to claim he would be given food there. Before he went out, he ___ fed by his mother. He would need to think of a better excuse for the next time.	Simon prepared all the stuff he needed to take to his friend's house and piled it by the door. Before he went out, he ___ fed by his mother. His friend's house was quite far away and the drive took so long that he fell asleep.
32	Isaac wanted to reach the chest that sat on the small outcrop inside the old lighthouse and asked for some help getting to it. With little delay, he ___ lifted by Felix. The boost brought the chest within reach and he moved to open it.	Isaac saw a chest out of reach on an outcrop inside the old lighthouse and asked not to be the one to retrieve it. With little delay, he ___ lifted by Felix. Though he hated heights, he now had no choice but to move over to open it.	Isaac was travelling through an old lighthouse with his companions when he spotted a chest on a small outcrop. With little delay, he ___ lifted by Felix. Once on the ledge, he pulled the others up after him so they could investigate the item.
33	Jacob had been investigating a huge underground vault and become trapped, so he set up a distress call to draw attention. Days passed down there, but eventually he ___ heard by a courier. The call had worked and the courier managed to roll back the huge door and rescue him.	Jacob had hidden in an underground vault from a gang of raiders and tried to remain silent and undetected. Days passed down there, but eventually he ___ heard by a courier. He hadn't realised an old distress signal had been activated when he first checked the radio.	Jacob was exploring an underground vault and experimenting with the old technology that he could find. Days passed down there, but eventually he ___ heard by a courier. It seems he had accidentally activated a distress signal while checking a ham radio.
34	Wally hated crowds, and finding himself stuck in another, tried to draw attention to his position. It took a while, but he ___ found by one of his watchers. Now he could more on to his next destination.	Wally loved to try and hide in crowds, so once again he made an effort to blend in with those around him. It took a while, but he ___ found by one of his watchers. Now he had to try again in a new location.	Wally was moving through another huge crowd, wondering what had caused all the chaos. It took a while, but he ___ found by one of his watchers. He hadn't even realised anyone was following him.
35	Amy noticed that anyone could be given a place on the homepage in exchange for submitting a series of articles to the site. A week or two later, she ___ featured by the website. She was pleased that she had accomplished the task and could now be seen by all visitors to that site.	Amy submitted several articles to one of her favourite sites but asked to be allowed to keep a quite low profile. A week or two later, she ___ featured by the website. Now she would be far more noticeable, which would lead to an increase in the already unanswerable quantity of emails.	Amy had recently submitted several articles to a site that she often went to for good quality content. A week or two later, she ___ featured by the website. She hadn't imagined they might like her work so much that they would display it on the homepage.
36	It had been a long time since Craig had uploaded anything to YouTube, so he organised a party to ensure someone could capture his antics. In the midst of the madness, he ___ filmed by Dave. The footage was on the net within minutes.	Craig had been invited to a party but wanted to avoid any pictures of foolishness ending up online, so he tried to behave more soberly than usual. In the midst of the madness, he ___ filmed by Dave. The footage found its way online within minutes.	Craig was at a party that, following an excess of alcohol, was beginning to get quite wild and silly. In the midst of the madness, he ___ filmed by Dave. The camera-phone footage of his stupidity was uploaded to YouTube within minutes.

Appendix 7 - Materials for Experiment 7 (Chapter 12)

Item	Positive Intention	Negative Intention	Zero Intention
01	John had seen loads of adverts about accident compensation and thought about planning something foolish. Later that week he was/got hit by a bus. Suspicions were raised and the investigation continued for several days.	John was very careful about crossing the road, so he always looked both ways more than once. Somehow, last week he was/got hit by a bus. His friends were especially shocked, as they knew he was slightly obsessive about crossing safely.	John's route to work was long, but parts of it took in some lovely scenery. Last week, on his normal route, he was/got hit by a bus. Many of his colleagues visited him while he slowly recovered in bed.
02	The game of 'hide and seek' was far too slow and Sara decided to end it. Before long she was/got seen by her brother. Finally they could play a different game!	Sara was enjoying the game of 'hide and seek' and wanted to keep hiding all day. Before long she was/got seen by her brother. After that they had to play a different game.	Sara and the other children were playing a game of 'hide and seek'; they enjoyed hiding, as well as being found. Before long she was/got seen by her brother. The game continued all afternoon.
03	The man realised he had nowhere to go and decided to run out in front of the armed police. Immediately there were several bright flashes as he was/got shot by the waiting officers. In America they call it 'Suicide by Cop'.	The man had heard gunfire and, not wanting to get involved, ran out from the building. Suddenly there were several bright flashes as he was/got shot by the waiting officers. Sadly, he had just been in the wrong place at the wrong time.	A man finished work and left the building through one of the small side doors. Without warning, he was/got shot by the waiting officers. Later in hospital, his friends told him about the mistakes that had lead up to his accidental shooting.
04	A huge flood had trapped Gerald and he desperately did everything he could to draw attention. It was only a short time before he was/got rescued by a helicopter team. On dry land everyone welcomed him back with teary eyes.	A huge flood had trapped Gerald but he decided to hide himself from the search teams. It was only a short time before he was/got rescued by a helicopter team. Later he saw how foolish it had been to want to die.	In a huge flood Gerald had been knocked unconscious by a strong wave. It was only a short time before he was/got rescued by a helicopter team. People on the shore had been extremely worried about him and were ecstatic to see him.
05	The little girl had been playing in the mud and disliked being so dirty. As soon as she went in the house she was/got cleaned by her mother. Once she was dry again, she could play new games.	The little girl was covered in muck but tried to sneak to her room to avoid a bath. As soon as she went in the house she was/got cleaned by her mother. She complained all the way through her bath.	The little girl had been playing with her friends all afternoon and was getting tired. As soon as she went in the house she was/got cleaned by her mother. Once she was dry, she fell asleep very quickly.
06	Paul was desperate to get the new position and begged people to put in a good word for him. Just before the boss was due to interview him, he was/got recommended by a friend. It seemed to help, as he got offered the job a few days later.	Paul didn't like when someone formed an opinion of him before they actually met. Before the boss was due to interview him, he was/got recommended by a friend. Paul was annoyed, though he did get the job in the end.	Paul knew a couple of people at the company he had just applied to. Before the boss was due to interview him, he was/got recommended by a friend. Paul never found out about the recommendation as he decided to accept a position elsewhere.
07	Andrew found himself lost in the dense jungle and he tried to remain still as some large animals approached. As he sat there, he was/got ignored by the passing creatures. Unfortunately he didn't really feel any safer, not knowing when they might return.	Andrew had been trying to photograph some rare animals and tried several things to draw their attention. As he sat there, he was/got ignored by the passing creatures. Annoyed, he packed up his things and gave up for the day.	Andrew sat writing his notes, unaware of the dangerous animals that were nearby. As he sat there, he was/got ignored by the passing creatures. He was very lucky not to have made sudden movements to draw their attention.
08	Jenny wanted to become part of a specific group of friends at her new school and tried to impress them. By the end of the week she was/got accepted by the group. She was so surprised to enter their circle so quickly.	There was one specific group of friends Jenny wanted to avoid and tried to do things they would dislike. Yet, by the end of the week she was/got accepted by the group. They had totally misinterpreted her actions.	At Jenny's new school there was a group of friends that everyone wanted to be a part of. After just a few weeks she was/got accepted by the group. She didn't know why they let her join, but she was happy to have some new friends.
09	As a power-up, the fire flower wanted to help the hero of the game and so it tried to draw attention to itself from on top of a block. The music changed as the power-up was/got collected by Mario. The fire flower was able to aid in the quest for the princess.	As a power-up, the fire flower wanted to avoid the hero of the game and hid inside a block. The music changed as the power-up was/got collected by Mario. The fire flower was just one of many power-ups that had tried to hide and failed.	As a power-up, the fire flower simply sat quietly on top of a block watching the world scroll by. The music changed as the power-up was/got collected by Mario. With the extra power, the game became a bit easier for a while.
10	Something had gone missing in the classroom and Amy wanted to protect her friend, so she acted suspiciously. She couldn't help crying when she was/got blamed by the teacher. Even though it was what she had intended, she still felt upset.	Amy had stolen something from the classroom and tried to avoid being caught. She couldn't help crying when she was/got blamed by the teacher. She was annoyed to be caught, but also started to feel slightly guilty.	Unknown to Amy, some things had gone missing from the classroom. She couldn't help crying when she was/got blamed by the teacher. She was very annoyed as she could see no basis for the accusation, but the teacher would not listen to her.
11	Peter had not been looking forward to playing sports again, so he tried to irritate the other players. Before the game began, he was/got removed by his teammates. Peter gladly walked away and watched from the sidelines.	Peter desperately wanted to play in the next match and tried to impress the other players. Before the game began, he was/got removed by his teammates. Peter was hurt and disappointed, and had to simply watch from the sidelines.	There were too many players to take part in the next match and Peter wondered who would have to go. Before the game began, he was/got removed by his teammates. For this match he watched from the stands instead of playing.
12	After realising she hadn't been asked to go to the party, Jenny did everything she could to appeal to those who were going. Late in the afternoon she was/got invited by the guy who had organised it. She was so pleased that she ran off to prepare immediately.	Jenny knew there was a party happening and she was doing her best to avoid having to go. Late in the afternoon she was/got invited by the guy who had organised it. It would be rude to say no, so she pretended to be excited.	A party had been planned for later that night, but Jenny had no idea who was going. Late in the afternoon she was/got invited by the guy who had organised it. She didn't know him too well, but he seemed quite calm and friendly.
13	Jack knew he needed to draw attention away from his partner's position, so he made a run between the destroyed buildings. As he moved across the gap he was/got noticed by the enemy snipers. His partner was able to spot them and take them out.	Jack knew he was cornered and needed to move without being seen, so he made a run between two old buildings. As he moved across the gap he was/got noticed by the enemy snipers. The shots forced him to dive for cover again.	Jack was lost in the ruins of the bombed city and slowly passed between the deserted buildings. As he moved across a gap he was/got noticed by the enemy snipers. He had had no idea they were there and quickly ran for cover.
14	Laura was desperate for recognition and sought publicity at any event she attended, usually speaking with the organisers beforehand. At last month's conference she was/got mentioned by the first speaker. She glowed with pride at her skills of persuasion.	Laura had done a lot of great research but disliked public praise, so she always tried to persuade organisers to avoid referencing her. At last month's conference she was/got mentioned by the first speaker. She felt annoyed, but couldn't help a small rush of pride.	Laura does research at the local university, usually gathering data from undergraduates desperate for money. At last month's conference she was/got mentioned by the first speaker. Her research was quite well known by those within her field.
15	Andy had joined Twitter to expand his following and told all his friends to take a look at his feed and add him. After a few days he was/got followed by numerous people. He hoped to eventually persuade everyone he knew to follow him.	Andy had joined Twitter to use it as a sort of news source, but tried to use a name that would avoid followers. After a few days he was/got followed by numerous people. He was quite sure he knew none of them, but he started a different account anyway.	Andy spent a lot of time online, usually playing online multiplayer games, but recently he signed up to Twitter. After a few days he was/got followed by numerous people. He never realised as he was too engrossed in levelling up his character.
16	The chest wanted to reveal its treasure and made itself shine brightly to attract passers-by. Eventually it was/got opened by an adventurer. The chest had achieved its purpose.	The chest wanted to conceal its treasure and made itself dull to avoid passers-by. Eventually it was/got opened by an adventurer. The chest had failed in its purpose.	A chest sat motionless in the empty dungeon, wondering if anyone would ever pass by. Eventually it was/got opened by an adventurer. There had been a great treasure hidden inside it all along.
17	Saria loved the TV show 'QI' and wanted to see her name in the credits, so she constantly emailed them bits of her work. After many months, she was/got quoted by the researchers. She had finally persuaded the show to use some of her material and she was delighted.	Saria loved working for the TV show 'QI' but wanted to keep her name out of the credits and stay anonymous. After many months, she was/got quoted by the researchers. She was annoyed at the slip by the team and clearly voiced her opinion.	Saria had a large number of papers and books to her name and she once spoke with a researcher from the TV series 'QI'. After many months, she was/got quoted by the researchers. She was quite surprised to see her name in the credits of the show.
18	As a new comedian, Russell seemed to receive little attention from the press, so he made a point of drawing their attention to his latest show. By the end of the week he was/got reviewed by several journalists. He hoped this would bring him wider recognition.	As a comedian, Russell wanted to avoid any attention from journalists and tried to discourage articles about his latest show. By the end of the week he was/got reviewed by several journalists. He decided not to read the articles, even if they were supportive.	As a new comedian, Russell played at numerous venues; his latest was a couple of days at a small club. By the end of the week he was/got reviewed by several journalists. His next small gig was still several weeks away.
19	As a popular robot, Bender felt that he could do with a bit extra height to allow more people to easily appreciate him. At a local garage, he was/got extended by the mechanic. He now stood tall enough in a crowd to be seen by everyone.	As a popular robot, Bender knew that his appearance was perfect and he made sure it was never altered. At a local garage, he was/got extended by the mechanic. Bender was horrified to be told the alteration was a necessary part of upgrade 2.2.01.	As a popular robot, Bender always made sure he had the latest updates installed as soon as they were released. At a local garage, he was/got extended by the mechanic. The addition of height was a necessary part of upgrade 2.2.01.

20	James taught undergraduates about phonology, and was very keen to make sure his teaching style was as good as it could be. Though there were several weeks before the next official report, he was/got evaluated by a senior member of staff. He thought it too long to wait weeks for feedback.	James taught undergraduates about phonology, but was very keen to avoid any review of his teaching style. Though there were several weeks before the next official report, he was/got evaluated by a senior member of staff. The surprise inspection made him very nervous and his teaching suffered.	James was a phonology teacher with a class of both undergraduates and mature students. Though there were several weeks before the next official report, he was/got evaluated by a senior member of staff. At his university, many things seemed to get rescheduled at short notice, which was a bit inconvenient.
21	The legendary creature, Ho-oh, had grown tired of endlessly riding the winds above Johto and looked for someone worthy of catching it. Just north of Goldenrod city, it was/got caught by a young trainer. It was glad to have found someone to stay with.	The legendary creature, Ho-oh, rode the winds above Johto and wanted to remain free, so it mostly avoided people. Just north of Goldenrod city, it was/got caught by a young trainer. It was annoyed to have been caught, but was willing to stay with the trainer.	Johto is home to several legendary creatures, such as Ho-oh, which rides the winds above the land. Just north of Goldenrod city, it was/got caught by a young trainer. The trainer had now caught two legendary birds in that region.
22	A spirit in the Gerudo wasteland was stuck due to the strange winds of the place and so he actively made signs in hope of being seen. After many years he was/got discovered by a wise traveller. The spirit's signs had worked, and now he needed the traveller's help.	A spirit in the Gerudo wasteland drifted across the dunes, hiding from anyone who passed through the desert. After many years he was/got discovered by a wise traveller. The spirit was angered, yet also impressed that anyone had managed to see him.	A spirit haunted the sands of the Gerudo wasteland, drifting through the endless dunes with a silent sadness. After many years he was/got discovered by a wise traveller. However, the spirit no longer wished to speak or stay with other people.
23	Michael was going deep undercover and needed to spend time in prison, so he held up a bank but made sure to still be there when the police arrived. Immediately he was/got arrested by the officers. The plan wasn't exactly difficult to pull off up to that point.	Michael had been robbing a bank and knew he needed to get out before the police arrived so he hurried out the entrance and ran into a side street. Immediately he was/got arrested by the officers. They had been alerted by the silent alarm system.	Michael's route to work was quite long and today he chose to take a short cut through a housing estate, where he noticed a high police presence. Immediately he was/got arrested by the officers. It later was revealed to be a case of mistaken identitiy.
24	The company was in a desperate financial situation and sought help from numerous sources. By the end of the month, it was/got nationalised by the government. The company's future became somewhat more secure.	The company was in a bad situation but still it wanted to remain independent. By the end of the month, it was/got nationalised by the government. The company had failed to protect itself, but at least its future was now more secure.	The company had existed for decades and had a proud tradition amongst its employees. By the end of the month, it was/got nationalised by the government. Workers hoped that this would not result in any sizeable changes.
25	As a new singer, Emma felt unknown, so she decided to get her picture in the press. Just yesterday, she was/got photographed by a local paper. The publicity would hopefully help her career to grow.	As a singer, Emma hated seeing her picture in the press and always tried to avoid being spotted. Just yesterday, she was/got photographed by a local paper. She was irritated and decided to stay indoors for a few days.	Emma was a new singer with quite an individual style and she had already gained a large following. Just yesterday, she was/got photographed by a local paper. Her first big show had already sold out.
26	Phil was on an adventure holiday about to do a parachute jump, but couldn't let go and asked for a little assistance in leaving the plane. Moments later he was/got pushed by the jump organiser. He was glad to have asked; the experience was amazing.	Phil was on an adventure holiday about to do a parachute jump, and asked for some time before leaping out. Moments later he was/got pushed by the jump organiser. He was terrified, but managed to focus and land safely.	Phil was on a plane with several other people, all about to do a parachute jump, and he was wondering when his turn was. Moments later he was/got pushed by the jump organiser. Falling out of a plane was a pretty clear indication that it was his turn.
27	A new rock group was seeking attention and made numerous requests to places to air their songs. After a week or two, the band was/got played by the local radio station. They were pleased that their persistence had paid off and were happy with the added publicity.	A new rock group was keen to remain underground and discouraged places from airing their songs. After a week or two, the band was/got played by the local radio station. They complained but the resulting disagreement simply brought further publicity.	A new rock group had been playing gigs around town in several different types of venue. After a week or two, the band was/got played by the local radio station. Their music had a wide appeal and demand grew for extra dates on their small tour.
28	Maria wanted to leave her job but, not knowing how to say she quit, went about things in a slightly different manner. In a short time, she was/got fired by her boss. The plan had worked, and she'd had a laugh at the same time.	Maria hated her job but really needed it so she did everything to try to gain favour and respect in the company. In a short time, she was/got fired by her boss. She was devastated and wondered if her actions had been the ultimate cause.	Maria had started working for a large company in the city centre that dealt with clients from all over the world. In a short time, she was/got fired by her boss. The company was facing difficult times and had to downsize its workforce.
29	The dwarf was ashamed to admit it, but he knew he couldn't jump the distance and asked for a hand. Without a moment's pause, he was/got thrown by the elf. He regretted his request when he landed on poor footing.	The dwarf was not sure he could jump the distance, but he asked not to be helped, so he paused to prepare himself. Without a moment's pause, he was/got thrown by the elf. He was so taken by surprise that he landed on poor footing.	At a gap in the stone stairway, which the travellers had to jump, the dwarf looked concerned. Without a moment's pause, he was/got thrown by the elf. Despite his shock, he carried on down the stairs towards the great bridge.
30	The team Bill played for were not doing great, so they made a plan to try to have one of the opposing team's players sent off. When the game started, he was/got knocked over by an opponent. The plan worked and that player was sent off for a foul.	Bill was not physically 100% at the moment, so he tried to be particularly careful during the game. When the game started, he was/got knocked over by an opponent. Unfortunately this made him miss the next few matches.	Today the team was low on players, so they had to send on Bill for the first time. When the game started, he was/got knocked over by an opponent. The game was generally quite rough, though there were no serious injuries this time.
31	Simon disliked the food at his friend's house so he asked his family to feed him at home. Before he went out, he was/got fed by his mother. He was relieved that she had listened to his request so he could have a more enjoyable time at his friend's.	Simon hated having to eat before heading over to his friend's house and tried to claim he would be given food there. Before he went out, he was/got fed by his mother. He would need to think of a better excuse for the next time.	Simon prepared all the stuff he needed to take to his friend's house and piled it by the door. Before he went out, he was/got fed by his mother. His friend's house was quite far away and the drive took so long that he fell asleep.
32	Isaac wanted to reach the chest that sat on the small outcrop inside the old lighthouse and asked for some help getting to it. With little delay, he was/got lifted by Felix. The boost brought the chest within reach and he moved to open it.	Isaac saw a chest out of reach on an outcrop inside the old lighthouse and asked not to be the one to retrieve it. With little delay, he was/got lifted by Felix. Though he hated heights, he now had no choice but to move over to open it.	Isaac was travelling through an old lighthouse with his companions when he spotted a chest on a small outcrop. With little delay, he was/got lifted by Felix. Once on the ledge, he pulled the others up after him so they could investigate the item.
33	Jacob had been investigating a huge underground vault and become trapped, so he set up a distress call to draw attention. Days passed down there, but eventually he was/got heard by a courier. The call had worked and the courier managed to roll back the huge door and rescue him.	Jacob had hidden in an underground vault from a gang of raiders and tried to remain silent and undetected. Days passed down there, but eventually he was/got heard by a courier. He hadn't realised an old distress signal had been activated when he first checked the radio.	Jacob was exploring an underground vault and experimenting with the old technology that he could find. Days passed down there, but eventually he was/got heard by a courier. It seems he had accidentally activated a distress signal while checking a ham radio.
34	Wally hated crowds, and finding himself stuck in another, tried to draw attention to his position. It took a while, but he was/got found by one of his watchers. Now he could more on to his next destination.	Wally loved to try and hide in crowds, so once again he made an effort to blend in with those around him. It took a while, but he was/got found by one of his watchers. Now he had to try again in a new location.	Wally was moving through another huge crowd, wondering what had caused all the chaos. It took a while, but he was/got found by one of his watchers. He hadn't even realised anyone was following him.
35	Amy noticed that anyone could be given a place on the homepage in exchange for submitting a series of articles to the site. A week or two later, she was/got featured by the website. She was pleased that she had accomplished the task and could now be seen by all visitors to that site.	Amy submitted several articles to one of her favourite sites but asked to be allowed to keep a quite low profile. A week or two later, she was/got featured by the website. Now she would be far more noticeable, which would lead to an increase in the already unanswerable quantity of emails.	Amy had recently submitted several articles to a site that she often went to for good quality content. A week or two later, she was/got featured by the website. She hadn't imagined they might like her work so much that they would display it on the homepage.
36	It had been a long time since Craig had uploaded anything to YouTube, so he organised a party to ensure someone could capture his antics. In the midst of the madness, he was/got filmed by Dave. The footage was on the net within minutes.	Craig had been invited to a party but wanted to avoid any pictures of foolishness ending up online, so he tried to behave more soberly than usual. In the midst of the madness, he was/got filmed by Dave. The footage found its way online within minutes.	Craig was at a party that, following an excess of alcohol, was beginning to get quite wild and silly. In the midst of the madness, he was/got filmed by Dave. The camera-phone footage of his stupidity was uploaded to YouTube within minutes.

Appendix 8 - Inferential Statistics for Region 3, Experiment 7 (Chapter 12)

Region 3 - One word after end of by-phrase

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD					
PVtype (P)	1	2.717	.099	1.792	.181
Intention (I)	2	3.449	.178	4.651	.098
P × I	2	2.465	.292	1.408	.495
GD					
PVtype (P)	1	.022	.882	.010	.922
Intention (I)	2	.395	.821	.785	.675
P × I	2	1.239	.538	.732	.694
RPD					
PVtype (P)	1	.058	.809	.027	.868
Intention (I)	2	1.178	.555	1.365	.505
P × I	2	.666	.717	.248	.884
TT					
PVtype (P)	1	.380	.538	.296	.586
Intention (I)	2	1.686	.430	1.858	.395
P × I	2	1.444	.486	1.624	.444
FPR					
PVtype (P)	1	.101	.750	.118	.732
Intention (I)	2	2.815	.245	3.278	.194
P × I	2	2.550	.279	2.530	.282
NoF					
PVtype (P)	1	1.997	.158	2.952	.086
Intention (I)	2	.549	.760	.310	.857
P × I	2	1.099	.577	1.975	.372
FLP					
PVtype (P)	1	2.742	.098	1.470	.225
Intention (I)	2	.901	.637	.062	.970
P × I	2	.398	.820	.399	.819

Appendix 9 - First run of reading eye-tracking experiment (Chapter 12)

After testing a set of thirty-six participants, it was discovered that a software error had caused the omission of two full conditions from the data recordings. Before carrying out the experiment a second time with another thirty-six participants, I examined the conditions for which data was successfully recorded. Data was missing for conditions 5 (get-passive; intention against) and 6 (get-passive; neutral intention). This limited the analyses that could be performed to two groupings. First a comparison could be done using the two conditions with Patient intention *for*: be-passive with intention for; and get-passive with intention for. Comparisons were also possible across the three be-passive conditions; that is, be-passive at each of the Intention levels, for, against, and neutral. Below I discuss these truncated results before looking at the second run of this experiment.

All data pertaining to conditions 5 and 6 were unavailable and are not considered in the following analyses. Accuracy in the comprehension questions was 83% or above for all participants.

Within Intention-For

One of the two possible comparisons on this truncated dataset was between the two intention *For* conditions: *be, for* and *get, for*. Each of the seven measures required different structures and assumptions in the statistical model, as described in 12.5 above. However, in each case, to investigate whether effects can be generalized across both subjects and items, two types of GEE analysis were carried out: the first took Passive-type as a within-subjects factor, while the second took Passive-type as a within-items factor. This produced a two level design for each of the analyses.

I used the models to predict variation in each of the seven measures as a function of passive-type (*get* or *be*). Tables 1-4 summarise these results for the seven measures, and each of the four regions of interest.

Table 1 Results from *GEE* analyses, predicting variations as a function of *Passive-type* (*be* or *get*) in Region 0 (preview region - two words before the critical region)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	1	.063	.802	.072	.789
GD	1	.621	.431	.528	.467
RPD	1	.755	.385	.892	.345
TT	1	1.020	.313	1.328	.249
FPR	1	.292	.589	.389	.533
NoF	1	.412	.521	.235	.628
FLP	1	.102	.749	.041	.839

Table 2 Results from *GEE* analyses, predicting variations as a function of *Passive-type* (*be* or *get*) in Region 1 (critical region - pvC + main verb)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	1	.559	.455	.819	.365
GD	1	1.073	.300	.801	.371
RPD	1	2.887	(*).089	1.677	.195
TT	1	4.315	*.038	5.832	*.016
FPR	1	1.185	.276	2.370	.124
NoF	1	.320	.571	.311	.577
FLP	1	.532	.466	.383	.536

Table 3 Results from *GEE* analyses, predicting variations as a function of *Passive-type* (*be* or *get*) in Region 2 (secondary critical region - agentive by-phrase)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	1	2.235	.135	2.347	.126
GD	1	.015	.901	.009	.925
RPD	1	1.399	.237	1.435	.231
TT	1	1.599	.206	.950	.330
FPR	1	1.754	.185	2.651	.103
NoF	1	2.032	.154	1.117	.291
FLP	1	.674	.412	.343	.558

Table 4 Results from *GEE* analyses, predicting variations as a function of *Passive-type* (*be* or *get*) in Region 3 (post-critical region - one word after by-phrase)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	1	.056	.814	.092	.762
GD	1	.160	.689	.330	.566
RPD	1	1.110	.292	1.703	.192
TT	1	.081	.776	.203	.652
FPR	1	1.800	.180	2.967	.085
NoF	1	.185	.667	.264	.607
FLP	1	.053	.819	.002	.962

As can be seen from Tables 1-4, there were some significant effects in the data. Effects were only seen in Region 1 (the critical region). There was an effect in Regression Path Duration that was approaching significance by subjects, though not by items. This effect indicated that when the passive-type was *get*, Regression Path Durations were likely to be longer (341±22) than when the passive-type was *be* (317±18). There was also a significant effect (both by subjects and items) in Total Time, whereby the total time spent in Region 1 reliably increased in the presence of *get* (407±29) rather than *be* (361±22).

Within Passive-type Be

The second comparison that was possible in this dataset was within the *Be* conditions; that is *be* in the three *Intention* conditions: *for*, *against*, and *neutral*. Each of the seven measures required different structures and assumptions in the statistical model. In each case, to investigate whether effects can be generalized across both subjects and items, two types of GEE analysis were carried out: the first took Intention as a within-subjects factor, while the second took Intention as a within-items factor. This produced a three level design for each of the analyses.

I used the models to predict variation in each of the seven measures as a function of Intention (*for*, *against*, or *neutral*). Tables 5-8 summarise these results for the seven measures, and each of the four regions of interest.

Table 5 Results from *GEE* analyses, predicting variations as a function of *Intention* (*for*, *against*, or *neutral*) in Region 0 (preview region - two words before the critical region)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	2	1.374	.503	1.488	.475
GD	2	2.184	.336	.679	.712
RPD	2	4.844	(*).089	5.914	(*).052
TT	2	.574	.751	.146	.929
FPR	2	1.007	.604	.716	.699
NoF	2	1.340	.512	.652	.722
FLP	2	.786	.675	.475	.789

Table 6 Results from *GEE* analyses, predicting variations as a function of *Intention* (*for*, *against*, or *neutral*) in Region 1 (critical region - pvC + main verb)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	2	.034	.983	.028	.986
GD	2	.309	.857	.229	.892
RPD	2	2.221	.329	.984	.611
TT	2	5.220	(*).074	6.872	*.032
FPR	2	4.749	.093	4.387	.112
NoF	2	.342	.843	.300	.861
FLP	2	.884	.643	.510	.775

Table 7 Results from *GEE* analyses, predicting variations as a function of *Intention* (*for*, *against*, or *neutral*) in Region 2 (secondary critical region - agentive by-phrase)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	2	1.581	.454	1.952	.377
GD	2	1.067	.587	.264	.876
RPD	2	1.368	.505	1.274	.529
TT	2	4.525	.104	5.132	(*).077
FPR	2	9.676	*.008	5.922	(*).052
NoF	2	1.642	.440	2.114	.348
FLP	2	.430	.806	.585	.746

Table 8 Results from *GEE* analyses, predicting variations as a function of *Intention* (*for*, *against*, or *neutral*) in Region 3 (post-critical region - one word after by-phrase)

		by subjects		by items	
Effect	***df***	***Generalized χ^2***	***P***	***Generalized χ^2***	***P***
FFD	2	.101	.951	.093	.955
GD	2	1.392	.499	.967	.616
RPD	2	2.190	.334	2.214	.331
TT	2	2.435	.296	1.863	.394
FPR	2	6.238	.044	/	/
NoF	2	3.197	.202	.997	.608
FLP	2	2.567	.277	.641	.726

As can be seen in Tables 5-8, there were several significant effects in the data. In Region 0 (the preview region) there was an effect in Regression Path Duration that was approaching significance both by subjects and items. This effect indicates that Regression Path Durations were lowest in the *neutral* condition (265±11), higher in the *against* condition (290±18), and highest in the *for* condition (309±26).

Region 1 (the critical region) displayed an effect in Total Time, whereby the *neutral* condition produced the longest total reading times (419±24), with the *against* condition having faster times (393±19), and the *for* condition displaying the fastest (362±15). This effect was significant by items, and was approaching significance by subjects. There is a suggestion that this effect continues into Region 2 (the by-phrase), with an effect approaching significance by items only: the *neutral* condition again produces the longest reading times, though there is no significant difference between the *for* and *against* conditions.

Region 2 also produced an effect in First Pass Regressions, whereby regressions were most likely in the *neutral* condition (.27±.03), less likely in the *against* condition (.19±.03), and least likely in the *for* condition (.13±.02).

Although may appear to be an effect in First Pass Regressions in Region 3, the model was not fully satisfied due to sparsity of data in some cells, with the model unable to converge in the by-items analysis, and therefore this result should not be treated as reliable.

Run 1 Mini-Discussion

This first experimental run allowed only limited analysis, since a software error prevented two of the six conditions from being recorded. It was, however, possible to run inferential statistics on the two intention *for* conditions, and separately on the three conditions with passive-type *be*.

Within the intention *for* conditions, the only visible effects came in the critical region (the pvC plus main verb). Both Regression Path Duration and Total Time were reliably increased when the pvC was *get*. This suggests that a get-passive is more difficult to process than a be-passive, at least in a context where the Patient intends the event to happen. This supports the majority of the literature on get-passive semantics, in which it claimed that *get* occurs primarily with negative outcomes or adversative events (e.g. Chappell, 1980; Carter & McCarthy, 1999; Sawasaki, 2000; McIntyre, 2005; see Chapter 2 for full discussion).

For the three *be* conditions (intention *for*, *against*, and *neutral*) effects were seen in regions 0 (preview region), 1 (critical region), and 2 (by-phrase region). In region 0, Regression Path Duration was lowest in the *neutral* condition, higher in the *against*, and highest in the *for* condition. This is likely to arise from having to integrate the subject of the passive sentence into the preceding context. The subject would always appear in region 0 as a pronoun (*he, she*, etc.). It is possible that, when the subject has no explicit intentions, there is less need to confirm whether it is appropriate for them to occur as a Patient; when the subject does have some investment in the event (desiring either that it will or will not happen), participants are more likely to regress, confirming whether the subject is an appropriate passive Patient. Though they may infer or predict it from context, for a reader to be certain by this point (Region 0) that they are reading a passive sentence, it would be necessary to process the contents of Region 1 parafoveally.

However, in regions 1 and 2, we see that the *neutral* condition actually displays the longest total reading time, and in region 2 shows the highest likelihood of regression during first-pass reading. This indicates that a passive sentence is most difficult to integrate into a context with no prior indication of Patient intent. This supports claims that the passive in general is used in describing adversative (either positive or negative) situations (e.g. Henley et al, 1995; Arrese, 1999) or that both get-passives and be-passives can describe specific distributions of intention (Lasnik & Fiengo, 1974; Givon, 1993).

While the results above are interesting in themselves, since two full conditions were missing from this dataset, they cannot be taken as indicative of effect from the experimental manipulations; that is, while *get* appeared to be more difficult to process than *be*, only one intentionality level was considered. The full design is explored in Chapter 12.

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