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The advantage for name -designated characters during reading

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THE ADVANTAGE FOR NAME-DESIGNATED CHARACTERS DURING
READING

BY

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DISSERTATION

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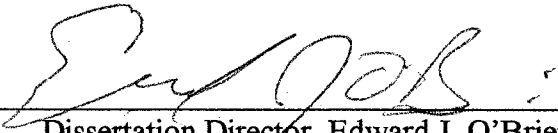
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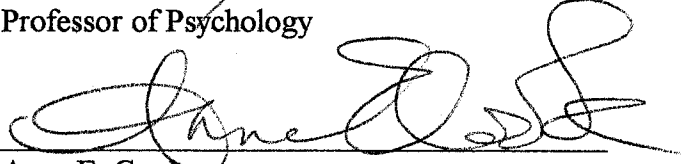
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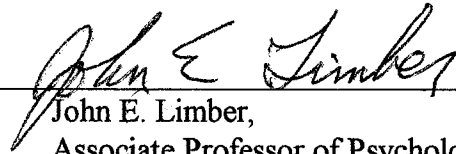
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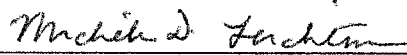
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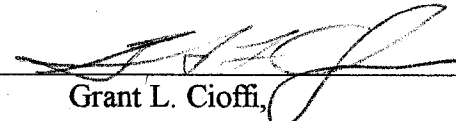
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ABSTRACT

THE ADVANTAGE FOR NAME DESIGNATED CHARACTERS DURING READING

by

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University of New Hampshire, May, 2004

When two characters are mentioned in a text, one referred to by a title (e.g., professor) and one referred to by a proper name (e.g., Christopher), the character referred to by the name is more accessible in memory. Although there has been a lot of research documenting the advantages that name-designated characters have over title-designated characters, most of it has done so using very short texts. The experiments reported in this dissertation utilized longer passages of text to examine whether certain variables that are known to affect accessibility, such as order of mention, number of mentions, elaboration, and distance, will affect the advantages that name-designated characters typically have during reading.

Participants read passages containing two characters, one referred to by a title and one referred to by a proper name. In all experiments except for the rating studies, reading times were measured for sentences that reinstated either the name- or the title-designated character. Experiment 1b varied which character was introduced first. In Experiment 2b, one character was mentioned more often than the other character. In Experiment 3, the type of elaboration was varied: either the episodic or semantic traits of the title-designated

character were emphasized. In Experiment 4, the distance between the last mention of the title- or name-designated character and the reinstatement sentence was varied. In all of the experiments except for Experiment 2b, reading time differences demonstrated that the name-designated character was more accessible than the title-designated character, regardless of the manipulation. In Experiment 2b, when the name-designated character was mentioned the most often, it was reinstated faster than the title-designated. When the title-designated character was mentioned the most often, the advantage that existed for the name-designated character in every other experiment was eliminated. The results are discussed in terms of the memory-based text processing view and an interaction between episodic and semantic memory.

INTRODUCTION

“Jake and the teacher had a meeting to talk about the paper that was due next week.” After reading a sentence such as this one about Jake and the teacher, readers are faster to respond to Jake than the teacher. Is it because Jake was the first character mentioned? Is it because he was introduced by a proper name and the second character was introduced by a common noun (i.e., the teacher)?

In fact, characters designated by a proper name, as opposed to characters designated by a title, receive many advantages in memory. For example, Sanford, Moar, and Garrod (1988) found that sentences that contained a pronoun referring back to a name-designated character were read faster than sentences that contained a pronoun referring back to a title-designated character, regardless of which character was mentioned first. The goal of this dissertation is to examine why name-designated characters have a privileged status in memory. In the sections that follow, evidence that name-designated characters are more accessible than title-designated characters will be reviewed, as well as some possible theories as to why this may be the case.

The greater accessibility of name-designated characters over title-designated characters is best demonstrated during antecedent retrieval. For example, in the Sanford et al. (1988) study, sentences that reinstated a name-designated character were read faster than sentences that reinstated a title-designated character. Chapter Two will describe the process of antecedent retrieval and some factors that may affect the rate at which concepts

are reactivated and returned. A recent study by Cook, O'Brien, Peracchi, and Myers (2004) found that elaborated antecedents were reactivated faster than recent, unelaborated antecedents. Perhaps other factors besides proper name use, such as elaboration and distance, contribute to greater accessibility. Some of these factors will be considered in the context of antecedent retrieval in Chapter Two.

There are some additional factors that may contribute to the advantage for name-designated characters not related to antecedent retrieval. For example, Gernsbacher (1989) found that when two name-designated characters are mentioned in a sentence, the character that is mentioned first is recognized more quickly than the character that is introduced second. Evidence concerning this will be reviewed in Chapter Three.

After describing the evidence in favor of a name-designated character advantage in Chapter Four, Chapter Five will review memory theories and the accounts proposed by these theories as to why name-designated characters are more accessible in memory (e.g., memory-based text processing). Chapter Six will describe a series of experiments designed to manipulate factors within a text, such as order of mention, number of mentions, type of elaboration, and distance between an anaphor and an antecedent, that may eliminate the advantage for name-designated characters. But first, the difference between proper names and titles will be clearly defined in Chapter One.

CHAPTER I

PROPER NAMES

Although it may seem obvious, it might be helpful to first clearly define what a proper name is. Most dictionaries of linguistics or grammar agree on a few properties: 1. A proper name denotes a specific person or place; 2. Proper names begin with a capital letter; 3. Proper names are typically not used with determiners as common nouns are (Valentine, Brennen, & Bredart, 1996). So for example, New York City, Sheila, and Mr. Smith are all proper names. However, other things such as holidays (e.g., Christmas), names of unique animals (e.g., Bugs Bunny), names of institutions (e.g., University of New Hampshire), and names of unique objects (e.g., The Old Man in the Mountain) can also be considered proper names. In this dissertation, proper names will always refer to a person.

Regardless of the type of proper name, what is important in discourse processing is the meaning of a name. Some philosophers insist that proper names are devoid of any meaning. For example, knowing that someone's name is Mr. Willows does not reveal whether he is married, what he does for a living, where he lives, what he looks like, how old he is, etc. However, Valentine et al. (1996) argue that names do provide some information. For example, it is likely that Mr. Willows is an adult, English speaking male. Names may also provide information about ethnic origin.

Proper names are important because they are so prominent and appear in almost every text. In reading, the characters in a text are almost always designated by a proper name. Thus, the names are referring to specific individuals that the reader must keep track of in order to understand the text; the actual name of the character is probably of little consequence. The next chapter describes how readers do keep track of and reinstate concepts in a text.

CHAPTER II

ANTECEDENT RETRIEVAL

In order to access a previous mention of a name- or a title-designated character in a text, a reader must engage in antecedent retrieval. Antecedent retrieval occurs when a concept currently being read refers to a concept that has been mentioned earlier in the text, and a reader must reactivate that concept and integrate it with the current text. This chapter will review and discuss some of the basic processes involved in antecedent retrieval. Successful reading, and therefore antecedent retrieval, requires that a reader keep track of what information has already been read, as well as the new incoming information. Chafe (1974) argued that a speaker (or in this case a writer) makes assumptions about what is in the listener's (reader's) consciousness at the time of speech. He refers to this as the given material, which is already in the listener's consciousness, and new material, which is not. This he argued will affect the speaker's use of word-order, intonation, and pronominalization. Consider the example Chafe used:

1. I just found some books that belong to Peter.
2. I wish I knew where Peter's living now.
3. I'd like to give these books back to him.

The addressee is easily able to understand that the "him" in sentence 3 refers to Peter because according to Chafe, Peter is given information that was introduced into

consciousness in the first two sentences.

Of concern here is how readers are able to make that connection between “Peter” and “him.” According to Lesgold, Roth, and Curtis (1979) there are three ways to connect an anaphor, a word that refers to a previously mentioned concept in the text, to its antecedent, or the concept being referenced. First, an immediate match can be made between the anaphor and a concept in short-term memory. Second, the antecedent can be reactivated from long-term memory. Third, if a match cannot be made to concepts in short- or long-term memory, a bridging inference can be activated (Clark, 1978; Haviland & Clark, 1974).

Consider the following sentences used by Sanford et al. (1988).

- A. Claire was taking shorthand. The manager was dictating a letter.
- B. The manager was dictating a letter. Claire was taking shorthand.
- C. It was getting to be late in the afternoon.
- D. He/She was beginning to feel hungry.

Participants saw either sentence A or B, followed by sentences C and D. In both versions (A and B), there are two characters: one designated by a proper name (e.g., Claire) and one designated by a common noun (e.g., the manager) – they differ only in the order in which they are mentioned. Sentence D requires readers to reinstate an antecedent, either the name- or title-designated character. In order to understand the pronoun in sentence D, the reader needs access to the character mentioned earlier in the text. Sanford et al. found that reading times for sentences containing a pronominal reference (i.e., “He/She” in sentence D) to named characters (Claire) were shorter than the times to read sentences

containing a reference to role-described characters (the manager). That is, participants were faster to read sentence D when it referred to Claire, regardless of whether or not she was mentioned first. Presumably, when the reader encounters the pronoun, it triggers the retrieval of its antecedent (e.g., Claire or the manager).

Of particular interest in this dissertation is when concepts must be reactivated from long-term memory during antecedent retrieval. The basic mechanism by which an anaphor activates its antecedent is assumed to be a passive resonance process. Myers and O'Brien (1998; O'Brien, 1995; O'Brien & Myers, 1999) described the process by which distant antecedent information is retrieved as a fast-acting, passive resonance process. Although a detailed description of this view, the memory-based text processing view, will be presented in Chapter Five, a brief overview is presented here. According to the memory-based text processing view, a signal emanates from the conceptual features of the information currently held in working memory. This signal activates concepts already in memory that share many features in common (Ratcliff, 1978; Gillund & Shiffrin, 1984). The degree to which items in memory resonate is a function of the degree to which the input and the item in memory share semantic and contextual features and on the argument overlap of propositions. The items in memory that are initially contacted in turn serve as a signal to other items in memory. Those items that resonate sufficiently enter working memory. This process allows the reader access to related information from earlier portions of the text as well as from general world knowledge.

There are two main features to the resonance process. The first is that it is a continuous signal being sent to all of memory. The signal is always changing as the

contents of working memory are updated. The second feature is that the process is dumb. Any information that resonates with the input is returned regardless of whether that information will help or hinder comprehension.

With respect to antecedent reactivation, when an anaphoric phrase is encountered by the reader, a signal is sent to all of memory and potential antecedents resonate in response. The potential antecedent that shares the greatest number of features with the anaphor will resonate the most and have the highest likelihood of being selected (e.g., Garrod, O'Brien, Morris, & Rayner, 1990; Gernsbacher, 1989, 1990; O'Brien, 1995; O'Brien & Albrecht, 1992; O'Brien, Albrecht, Hakala, & Rizzella, 1995; O'Brien, Plewes, & Albrecht, 1990).

The automatic reactivation of antecedents through a fast-acting passive resonance process is consistent with research finding that more explicit anaphors (e.g., definite descriptions) are resolved more quickly and easily than less explicit anaphors, such as pronouns (e.g., Greene, McKoon, & Ratcliff, 1992). For example, when the anaphor is a direct repetition of the antecedent, the time to retrieve the antecedent is faster than when the anaphor is a synonym of the antecedent (Dell, McKoon, & Ratcliff, 1983; McKoon & Ratcliff, 1980). McKoon and Ratcliff (1980) had participants read passages such as the one presented in Table 1. A critical word, in this case burglar, was presented at the beginning of the paragraph. The final sentence contained one of three types of anaphors: an explicit anaphor (e.g., burglar), an anaphor that was the category to which the critical word belonged (e.g., criminal), or a word that was not related to the critical word (e.g., cat). After reading the last sentence, participants were presented with the critical word for

Table 1.

Sample Passage used by Mckoon & Ratcliff (1980).

-
1. A burglar surveyed the garage set back from the street.
 2. Several milk bottles were piled at the curb.
 3. The banker and her husband were on vacation.
 - 4a. The burglar slipped away from the streetlamp.
 - 4b. The criminal slipped away from the streetlamp.
 - 4c. A cat slipped away from the streetlamp.
-

recognition. McKoon and Ratcliff found that both reading time on the final sentence and response time to the test word were faster when the anaphor was a direct repetition of the antecedent, than when it was a synonym or an unrelated word.

However, there are conditions under which an explicit anaphor will not reactivate its antecedent. O'Brien, Raney, Albrecht, and Rayner (1997) presented participants with passages that contained an antecedent that was either near, moderate, or distant from an explicit anaphor. The anaphor (e.g., the clothes) and the antecedent (e.g., the baby clothes) were both lexically and conceptually identical. Immediately after reading the anaphor, participants were required to read aloud the modifier of the target antecedent (e.g., baby). O'Brien et al. found that naming times for the adjective modifiers of the antecedent were faster than in a control condition, but this facilitation disappeared as the distance between the anaphor and the antecedent increased. O'Brien et al. suggested that the signal emitted from the anaphor was no longer strong enough to reactivate the antecedent in the distant condition.

Recall from the resonance process that the more featural overlap shared between an item in memory and incoming text, the greater the chance that the item in memory will be returned to working memory. O'Brien et al. (1997) hypothesized that a distant antecedent may not be reactivated by an anaphor because the signal from the anaphor is not strong enough to reactivate it. Increasing the amount of featural overlap between the anaphor and the antecedent would be one way to increase the signal from the anaphor and therefore reactivate the antecedent in the distant condition. O'Brien et al. did this in a second experiment by including the adjective modifier as part of the anaphor. So in the

example presented earlier when the antecedent was baby clothes, the anaphor would now also be baby clothes, instead of simply clothes. O'Brien et al. found that increasing the amount of featural overlap between the anaphor and the antecedent increased the signal enough so that the antecedent was now reactivated in the distant condition (see Albrecht & Myers, 1998, for a similar result). However, other researchers have found that the distance between an anaphor and its antecedent does not always have an effect (Levine, Guzman, & Klin, 2000; Lutz & Radvansky, 1997; O'Brien & Myers, 1987).

Another factor that may affect the reactivation of antecedent information is elaboration. Elaborating on a concept increases the number of retrieval routes to that antecedent, thus increasing the speed with which the antecedent will be reactivated. O'Brien and his colleagues (O'Brien, 1987, O'Brien et al., 1990; 1995) have done a series of studies manipulating the amount of elaboration on a concept. Typically, participants were presented with passages that contained two potential antecedents: One occurring early in the passage and one occurring late in the passage. One antecedent was elaborated whereas the other was not. That is, one of the antecedents was mentioned briefly while the other antecedent was elaborated on in much greater detail. Consider the example in Table 2. In this case, the early antecedent (train) is elaborated on while the late antecedent (plane) is mentioned only briefly. The final sentence in the passage prompted readers to reinstate one of the two antecedents (e.g., Mark's neighbor asked him how he had traveled to his parents'). O'Brien et al. found that both distance and elaboration influenced the time to retrieve an antecedent; more recently presented antecedents were reinstated faster than more distant antecedents, and elaborated antecedents were reinstated faster

Table 2.

Sample passage used by O'Brien et al. (1990).

Mark had grown up in the city but he had always wanted to live in the country. The first chance he got, he bought some land and moved there. It made him very happy not having to live in the crowded and noisy city. On holidays, he would travel by *train* into the city to visit his parents. While riding in it he liked to watch the countryside as it raced past him. Sometimes, the clackety clack it made on the tracks would put him to sleep. He'd wake up quickly though when they came to a crossing and it sounded the horn. Mark couldn't understand why people like his parents preferred to live in the city. Mark really enjoyed living in the country. He loved all the open spaces and the clean fresh air. His brother had also moved out of the city and was now living in Colorado. Last summer Mark had traveled by *plane* to visit him. He had loved looking down from it at the countryside and the clouds. Ever since Mark had moved to the country he made a lot of friends. On Saturdays, he played golf with his neighbor. On the weekends, their families would get together for cookouts. One weekend they'd eat at Mark's and the next they would eat at his neighbor's. One night while they were talking, Mark's neighbor asked him how he had traveled to his parents'.

than unelaborated antecedents.

Cook et al. (2004) also manipulated distance and elaboration. Consider the passage presented in Table 3. Each passage contained two candidate antecedents for an anaphoric reference; one appeared early in the passage and was mentioned only briefly (e.g., van), and one appeared late and was elaborated (e.g., truck). One of the antecedents was reinstated by a demand sentence (e.g., He asked what type of vehicle stopped with a flat; He asked what type of vehicle had run him off the road.). After the demand sentence, participants were probed with the early or late antecedent and were required to name aloud the probe as quickly as possible. Cook et al. found that naming times for reinstated antecedents (e.g., reinstate early antecedent, probe early antecedent) were significantly faster than in a control condition. They also found effects of distance and elaboration. That is, late antecedents were named faster than early antecedents; and this facilitation effect was much larger when late (elaborated) antecedents were probed than when early (unelaborated) antecedents were probed. However, in subsequent studies when position and elaboration were not confounded (i.e., in the previous studies the late antecedent was always the most recent and elaborated), only elaboration affected the accessibility of the antecedent; more distant elaborated antecedents were reinstated as quickly as recent, unelaborated antecedents.

If factors such as distance and elaboration can affect how quickly antecedents are retrieved, they may also play a role in how quickly name-designated and title-designated characters are reinstated. If distance is held constant, perhaps the character that is mentioned the most (i.e., elaborated) will be reinstated more quickly. Or, if elaboration is

Table 3.

Sample passage used by Cook et al. (2004).

Introduction

Dan had been driving all night in order to get home for Thanksgiving. He was falling asleep so he decided to stop for some coffee. He was glad he did because it made him feel much better.

Establish the Early Candidate

Before long, Dan drove pas a van which was stopped with a flat tire and he couldn't help but laugh. Its spare must have been underneath everything because suitcases and boxes were strewn everywhere by the side of the road.

Filler

When the sun started to rise, Dan figured he had about 100 miles left to drive. He hoped he'd be home soon. While he was driving, he though about how good Thanksgiving dinner would be. Dan hadn't had a home cooked meal in months.

Establish and Elaborate the late Candidate

Suddenly, he noticed a truck barreling down upon him in his rear view mirror. Dan thought that it must have been used for towing because there was a winch on the front and a tow bar on the back. Before he knew it, the truck had run him off the road. Unfortunately, it sped away so fast that Dan didn't get a chance to get the license plate number.

Closing Filler

Dan was shaken but not hurt, so he decided to continue driving. Once back on the road, he saw a diner and decided to stop, get more coffee, and calm down. While Dan was drinking his coffee, a policeman came in and started a conversation with him.

Reinstate the Early Candidate

He asked what type of vehicle stopped with a flat.

Reinstate the Late Candidate

He asked what type of vehicle had run him off the road.

Probe for the Early Candidate

van

Probe for the Late Candidate

truck

held constant, maybe the more recent antecedent, regardless of whether it is a name- or a title-designated character, will be reinstated more quickly. These issues will be explored in the experiments described in Chapter Six.

However, factors affecting antecedent retrieval may not be the only factors that contribute to greater accessibility for name-designated characters. For example, Gernsbacher (1989; 1990) suggested that when two characters are mentioned in a sentence, the one that is mentioned first will be remembered better. This possibility is described in the next chapter.

CHAPTER III

ORDER OF MENTION

The way that a character is introduced is not the only variable that can affect its status in memory; the order of introduction may also be important. Gernsbacher (1990) suggested that the character that is mentioned first is designated as the main character and, as a result, is more accessible in memory. For example, consider the sentence, "Tina and Lisa argued during the meeting." Participants read short sentences such as this one. They were then presented with one of the two character names (e.g., Tina or Lisa) for recognition. Gernsbacher consistently found that the character that was introduced first (i.e., Tina) was more easily accessed than the second character (i.e., Lisa). That is, participants responded more quickly to the character name that was introduced first. Gernsbacher refers to this as the Advantage of First Mention.

Another example of an advantage for first-mentioned characters comes from Corbett and Chang (1983). They had participants read two-clause sentences with an anaphoric reference in the second clause. The first clause contained two proper names of the same gender; the second clause either contained a pronoun or a direct repetition of the proper name (e.g., Scott stole the basketball from Warren and then he/Scott sank a jumpshot.). The sentence was immediately followed by a recognition test for one of the proper names (e.g., Scott or Warren). They found that when the anaphor was a proper

name as opposed to a pronoun, antecedent probes were verified more quickly than nonantecedent probes, but this effect was three times larger when the antecedent was the first mentioned character than when it was the second mentioned character.

It is possible that the first character to be mentioned is more accessible than other characters because it is confounded with other variables. Gernsbacher and Hargreaves (1988) performed a number of experiments to ensure that it was first mention, not some other variable, that led to an advantage in memory. Again, participants read sentences that involved two characters referred to by first names. After reading each sentence, participants responded to a probe word, which was one of the two names. Across seven experiments, Gernsbacher and Hargreaves manipulated such factors as whether the first mentioned character was the agent of the sentence (e.g., “Tina beat Lisa” as opposed to “Tina was beaten by Lisa.”), was the very first word in the sentence (e.g., “Tina mailed Lisa a box full of clothes two weeks ago” as opposed to “Two weeks ago Tina mailed Lisa a box full of clothes.”), or was the syntactic subject of the sentence (e.g., Because of Tina, Lisa was evicted). Gernsbacher and Hargreaves found that none of these linguistic factors mattered, and it was simply being mentioned first that led to the advantage.

Gernsbacher (1990) explained the advantage of first mention using her structure building framework. Her theory states that the goal of comprehension is to build coherent mental representations of the incoming information. These structures are composed of memory cells, which are activated by incoming stimuli. Active memory cells either enhance or suppress other memory cells. First, readers lay the foundation for the representation based on the initial incoming information. Second, new information is

mapped onto existing information. If it is not coherent with existing information, a new substructure is built.

Simply put, Gernsbacher (1990) claims that readers are slow when reading the first sentence because they are laying the foundation for the mental structures representing paragraphs. After reading a sentence that mentions two characters, it is easier to remember the one that was mentioned first. The first mentioned character is more accessible because it forms the foundation. Subsequent information (i.e., the second character) is then mapped onto that foundation. Information about the second character can only be represented through the first character.

As has been described in the previous two chapters, variables such as distance, elaboration, and order of mention all have an effect on how accessible an antecedent is in memory. However, all of these variables may not be enough to override the memory advantage that exists for name-designated characters. The next chapter explores the memory benefits attached to name-designated characters in more detail.

CHAPTER IV

THE NAME ADVANTAGE

When presented with a sentence such as the example used earlier in which there are two characters (e.g., Jake and the teacher had a meeting to talk about the paper that was due next week.), one designated by a proper name and one designated by a title, readers are faster to respond to the character with the proper name. This is exemplified by the Sanford et al. (1988) study described earlier. When participants read a text featuring two characters, one introduced by a proper name and one introduced by a title, they were faster to read a sentence containing a pronominal reference to the name-designated character than to the title-designated character. This is one of the best examples of how name-designated characters are more accessible than title-designated characters.

A similar result was found by Garrod, Freudenthal, and Boyle (1994). They had participants read short passages such as this one, followed by sentence one or two:

Joan wasn't enjoying the flight at all. The air in the plane made her really thirsty.

Just as she was about to call her, she noticed the stewardess coming down the aisle with the drinks trolley.

1. Right away she ordered a large glass of coke.
2. Right away she poured a large glass of coke.

Sentence one refers back to the name-designated character (e.g., Joan) while sentence two

refers back to the title-designated character (e.g., the stewardess). Participants were faster to read the sentence that referred back to the character designated by a proper name (i.e., sentence #1) than sentences that referred back to the title-designated character (i.e., sentence #2). However, one problem with this study is that they did not control for how often each character was mentioned. In this example, the character with the proper name (Joan) is mentioned four times, while the character designated by the title (the stewardess) is only referred to twice. Fortunately, this problem did not exist in the Sanford et al. (1988) study. Taken together, these two studies indicate that characters introduced by a proper name are more accessible in memory than role-described characters during antecedent retrieval.

Aside from an advantage during antecedent retrieval, a number of other benefits exist for name-designated characters. For example, Anderson, Garrod, and Sanford (1983) had participants read a short story such as:

The Browns were eating a meal in a restaurant.

The waiter was hovering around the table.

This restaurant was well known for its food.

Five hours/forty minutes later the restaurant was empty.

and then write a paragraph continuing the story. They wanted to know if the time shift (e.g., five hours or forty minutes) would affect the prominence of the characters in the story. They found that readers were more likely to use name-designated characters in the story continuation than title-designated characters regardless of the time shift. That is, the Browns were more likely to be used in the continuation than the waiter, regardless of

whether the story continued five hours or forty minutes later. The name-designated characters were mentioned in 83.9% of the continuations, whereas the title-designated characters were mentioned in only 27.3% of the continuations. However, they did find that the title-designated character, which they considered a scenario-dependent character, was less prominent after the larger time shift. This may suggest that interpretation of title-designated characters is more dependent on the scenario in which they are introduced.

In a second experiment, Anderson et al. (1983) measured reading time and response time for questions about name-designated and title-designated characters. Participants read the same passages as in Experiment One with one additional sentence added at the end of the paragraph referring to either the name-designated or title-designated character (e.g., They/He had enjoyed eating/serving all the good food.). Reading time for each sentence was measured, and immediately after each passage participants were asked questions about the two characters (e.g., Were the Browns eating in a restaurant? Did the waiter enjoy serving?). As in the Sanford et al. (1988) and the Garrod et al. (1994) studies, Anderson et al. found that the last sentence was always read faster when it referred to the name-designated character, even though that character always appeared earlier in the passage than the title-designated character. This effect was independent of the time shift. They also found that participants were faster to answer questions about name-designated characters than title-designated characters, regardless of time shift. Both results again suggest that name-designated characters are not only more available in memory, but information about those characters is more accessible in memory than information about title-designated characters.

Another issue that has been investigated related to name-designated and title-designated characters is the time course of contextual interpretation and pronominal resolution for each type of character, or how quickly each character is processed and integrated with the previous information in the text. According to Garrod and Sanford (1985), every text includes the meaning from both individual sentences and the meaning from the larger discourse as a whole. However, the reader only has access to information sequentially, as it was written. Garrod and Sanford wanted to know if the full interpretation of what is being read occurs as rapidly and as early as possible; if so, is the full interpretation of the sentence as a whole built up incrementally as the words are encountered? Garrod and Sanford investigated how full interpretation affects the reader's ability to interpret subsequent words in a sentence.

Participants read short paragraphs line by line such as the one presented below, and were to press a key as quickly as possible if they noticed any misspellings in the text.

Elizabeth was a very inexperienced swimmer and wouldn't have gone into the pool if the lifeguard hadn't been nearby. But as soon as she was out of her depth she started to panic and wave her hands about in a frenzy.

Target Sentences

1. Within seconds Elizabeth/the lifeguard *jumped* into the pool.
2. Within seconds Elizabeth/the lifeguard *sank* beneath the surface.

In this example, the sentence about Elizabeth jumping into the pool is inconsistent with the rest of the paragraph because she is already in the pool. The same is true for the lifeguard sinking beneath the surface; that is, presumably the lifeguard is capable of jumping into the

pool, and not sinking beneath the surface. The verb is then either consistent or inconsistent depending on which word preceded it. The critical verb (in italics) was either spelled correctly or misspelled. Time to detect the misspelling was a function of its contextual consistency with the preceding anaphor. That is, misspelled words were noticed more quickly if they were consistent with the preceding proper name or definite description. This result would support the claim that full contextual interpretation of an anaphor occurs as soon as it is read, regardless of whether a name-designated or title-designated character is being referenced. However, it is important to note that because the text was presented line by line, it is difficult to know exactly where in the text the misspelling was noticed, and therefore when the contextual interpretation of the anaphor took place. In fact, there is some evidence from eye-tracking that the process of anaphor resolution can be delayed (e.g., Ehrlich & Rayner, 1983; Duffy & Rayner, 1990).

Garrod and Sanford (1985) then used the same paradigm in a second experiment, except that the main character or the secondary character in the story (both referred to by proper names) was referred to by a pronoun as opposed to a full definite description. Again, they found that participants were slower to detect misspellings when the verb was inconsistent with the text, but only for the main character, not the secondary character. They concluded that this is because it is only when the pronoun refers to the main character that it is given a contextual interpretation. However, it is not clear this would be the case with title-designated characters that are considered to be the main character, as Garrod and Sanford only used proper names.

Another benefit for name-designated characters is that they are more often

associated with background information than title-designated characters (Sanford, Clegg, & Majid, 1998). Sanford et al. (1998) used reading time to determine whether background information was more important in the processing of main-character- or secondary-character-centered sentences. Consider the following example.

Introduction

The teller/Alastair called the next customer to his window.

Margaret/A woman stood at the head of the queue.

High Consistency

The atmosphere was airy and refreshing.

Low Consistency

The atmosphere was airless and oppressive.

Target Sentence

He/She fainted suddenly against a marble pillar.

The introduction was comprised of two sentences: The first sentence introduced one character, and the second sentence introduced the second character. The main character was introduced by a proper name and the secondary character was introduced by a common role description. This was followed by a high or low consistency sentence. The consistency sentence was considered psychological background information. The fourth sentence, the target sentence, was an action performed by one of the characters that was either highly consistent with the background information sentence or not. Reading time was measured for the target sentence. Sanford et al. found an interaction between which character (name- or title-designated) was referred to in the target sentence and

consistency. In the high consistency condition, the target sentence was read faster when it referred to the name-designated versus the title-designated character. In the low consistency condition, the target sentence was read more slowly when it referred to name-designated characters, but this difference was not reliable. Sanford et al. concluded that background sentences are processed differentially for name- and title-designated characters because there is a greater tendency for background information to be processed with respect to the main character. They argued that this supports the conclusion that background information is more central to the actions of name-designated than title-designated characters.

When the results of Garrod, Sanford, and colleagues (Anderson et al., 1983; Garrod & Sanford, 1985; Garrod et al., 1994; Sanford et al., 1988; Sanford et al., 1998) are combined with those of Gernsbacher (1990; Gernsbacher & Hargreaves, 1988), it seems like the proper name effect is strong enough to override the effect of first mention. McDonald and Shaibe (2002) addressed this question directly. They investigated what happened when the name-designated character was not mentioned first. Participants read sentences such as the ones presented in Table 4. The effects of order of mention and type of character designation on accessibility were measured using a recognition task probing either the first or the second character in a sentence. They found that first mentioned characters were responded to faster than second mentioned characters, and name-designated characters were answered faster than title-designated characters. The most important result was in cases in which first mention and name-designated characters

Table 4.

Sample passage used by McDonald & Shaibe (2002).

Probe-Name-Nonprobe-Name

Orville helped Calvin at the wedding reception.

Calvin helped Orville at the wedding reception.

Probe-Name-Nonprobe-Noun

Orville helped the chauffeur at the wedding reception.

The chauffeur helped Orville at the wedding reception.

Probe-Name-Nonprobe-Name

The butler helped Calvin at the wedding reception.

Calvin helped the butler at the wedding reception.

Probe-Name-Nonprobe-Noun

The butler helped the chauffeur at the wedding reception.

The chauffeur helped the butler at the wedding reception.

conflicted: When the first mentioned character was not a name-designated character (e.g., The butler helped Calvin at the wedding reception.). When this happened, the advantage for the name-designated character outweighed that of first mention: The name-designated characters were responded to faster than title-designated characters, even if the title-designated character was mentioned first. However, in single sentences in which the two characters were of equal status (i.e., both names or nouns), there was no basis other than position to decide who the protagonist was, and the first mentioned character was responded to faster. These results fit nicely with Gernsbacher's work (1990; Gernsbacher & Hargreaves, 1988). That is, she only used short texts featuring characters with proper names, which would explain why the first mentioned character always had an advantage. However, it should be noted that Gordon, Hendrick, and Foster (2000) recently demonstrated that Gernsbacher's results may be the result of strategic processing on the part of the participants, who may create a mental representation of the words they believe are likely to be probed.

Characters designated by a proper name receive many advantages over characters designated by a title. Perhaps the most prominent finding is that they are more accessible in memory, as demonstrated by antecedent retrieval studies. The next chapter reviews theories as to why this may be the case.

CHAPTER V

THE MEMORY-BASED TEXT PROCESSING VIEW

There is significant evidence detailing an advantage in memory for name-designated over title-designated characters. However, why name-designated characters are more accessible than title-designated characters is unclear. Earlier, a passive resonance process was used to explain antecedent retrieval. This process can also be used to explain the differences between name and title-designated characters.

For any text, there are two different memory traces: the episodic and the semantic memory trace. The episodic trace contains memory for the text itself, while the semantic trace contains facts and general world knowledge associated with the concepts in the text. It follows that information about name-designated characters would be contained almost solely in the episodic memory trace of the text, while information about title-designated characters would be contained in both the episodic and semantic traces. Consider a text that features two characters: "Jake" and "the teacher." All of the mentions and information about Jake in the text will be represented in the episodic memory trace. The semantic memory trace on the other hand may contain some information concerning the "Jakes" the reader may already know, but it will not contain much information about the Jake in the text. Next consider information about the teacher. Again, specific mentions of the teacher in the text will be contained in the episodic memory trace, just as they are for Jake. The

semantic memory trace on the other hand will also contain the reader's knowledge about teachers in general. That is, what teachers are, what they do, etc. So, for a title-designated character such as the teacher, there are two strong competing memory traces, one containing information about the text itself and the other containing general world knowledge about the title. The name-designated character does not have such competing memory traces, as almost all of the information about the character is contained in the episodic memory trace.

As described in the chapter on antecedent retrieval, when a reader encounters an anaphor, a bottom-up passive process sends a signal to all of long-term memory in parallel (Kintsch, 1998; Myers & O'Brien, 1998; O'Brien & Myers, 1999). Recall that Myers and O'Brien (1998) have developed a model of the resonance process as it applies to the reactivation of knowledge structures during reading. This model is based on the assumption that concepts and propositions from the text serve as signals to all of memory. Any items in memory that share features with the incoming text will resonate in response. The resonance process would take place simultaneously in the episodic representation of the text as well as in semantic memory. Any information that shares features with the incoming text (e.g., the anaphoric reference) will be returned, regardless of whether it is in episodic or semantic memory. However, this by itself cannot explain the advantage of name-designated characters. That is, if both representations are searched simultaneously, why does information about name-designated characters, assumed to be in the episodic representation, become available more quickly?

The answer may depend on an interaction of the two memory traces during

retrieval. In fact, O'Brien, Cook, and Derepentigny (2001) stated that because most models assume parallel activation, there is increasing pressure to examine the interaction of episodic and semantic memory traces, something that is lacking from most earlier research in which the activation of the episodic memory trace was investigated while holding general world knowledge constant, or vice versa.

Although the resonance process sends a signal to all of memory, the differential results for name- and title-designated characters during reinstatement searches may be the result of the competing activation that occurs when titles are encountered, but not when names are read. That is, when the reader encounters a proper name such as "Jake," a signal is sent to both episodic and semantic memory. Activation will spread through episodic memory more quickly because it contains the numerous references to "Jake" from earlier in the text. Semantic memory does not have the same connections that exist in episodic memory, so not a lot of information is being contacted and returned to working memory. When a title such as "Teacher" is encountered, a signal is once again sent to both episodic and semantic memory. Episodic memory again contains the earlier references to "Teacher" in the text, but this time, the title has a much stronger representation in semantic memory. That is, pre-existing knowledge about "teachers" is also being returned because it shares featural overlap with the "Teacher" in the text. Because the reader has to distinguish between information about the "Teacher" in the text, and information about teachers in general, the process takes longer than for proper names, which do not have the competing information in semantic memory.

Cook (2004) began to investigate this interaction between episodic and semantic

memory during antecedent retrieval. Specifically, she wanted to know if readers would detect inconsistencies in anaphoric references. That is, would readers reinstate an antecedent from earlier in the text after reading an incorrect, but related anaphor?

Consider the passage in Table 5. Terry purchases either a cello, a violin, or an oboe. After several lines of text to background the antecedent, the reader is prompted to reinstate the antecedent (e.g., “Terry showed her the cello she bought”). Notice that the correct antecedent condition (e.g., cello) and the incorrect-high overlap condition (e.g., violin) share many of the same features. Therefore, when violin is the antecedent and cello is incorrectly reinstated, the two concepts may still be easily integrated. This is not true of the incorrect-low condition (e.g., oboe), which does not share many features with the anaphor (e.g., cello). Therefore, readers would be more likely to notice the inconsistency and have difficulty integrating the two concepts. This would result in a slowdown in reading time on the reinstatement sentence.

Throughout a series of similar experiments, Cook (2004) found that readers experienced less processing difficulty when the overlap between the anaphor and the antecedent was high (e.g., cello -- violin) as opposed to when it was low (e.g., cello – oboe). That is, when the anaphor and the antecedent shared many features in common, the antecedent was reinstated faster than when it shared few features in common with the anaphor. This suggests that information about the semantic relation between the anaphor and the antecedent became available more quickly than episodic information, otherwise there would have been no difference between the high- and low-overlap conditions. In fact, in two of the experiments, Cook specifically tried to make the episodic trace of the

Table 5.

Sample Passage used by Cook (2004) in Experiment 2.*Introduction*

Terry loved classical music. She spent most of her waking hours listening to it, either in her room or in the car.

Correct Antecedent Condition

Terry decided that it would be fun to teach herself how to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful cello. It was made of beautiful cherry-stained wood, and the strings were perfectly tuned. She imagined herself pulling the bow across the strings to create perfect notes. Terry asked the salesman for a price. After thinking for a few minutes, she decided to buy it that afternoon.

Incorrect - High Overlap Condition

Terry decided that it would be fun to teach herself how to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful violin. It was made of beautiful cherry-stained wood, and the strings were perfectly tuned. She imagined herself pulling the bow across the strings to create perfect notes. Terry asked the salesman for a price. After thinking for a few minutes, she decided to buy it that afternoon.

Incorrect - Low Overlap Condition

Terry decided that it would be fun to teach herself to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful oboe. The keys on it were bright and shiny, and the case was lined in black velvet. She imagined herself fingering the keys to create perfect notes. Terry asked the salesman for a price. After thinking for a few minutes, she decided to buy it that afternoon.

Filler

When Terry arrived home she found a message on her answering machine from her friend Jill. Because Terry hadn't spoken to Jill in over a week, she decided to invite her over for coffee. When Jill came over, she told Terry that she had a new boyfriend. After chatting about Jill's new boyfriend for a while, Jill asked Terry about what was new with her.

Reinstatement and Spillover Sentences

Terry showed her the cello she bought.
She even tried to play a few notes.

Closing

Terry told Jill that she was going to start practicing that very evening.

antecedent more available. For example, in one experiment she elaborated on the dissimilar features of the anaphor in the incorrect-high overlap condition (see example in Table 6). The dissimilar features should now be the only information included in the episodic representation, making integration of the incorrect anaphor more difficult. Despite these efforts, readers still had less difficulty processing the incorrect-high overlap antecedents than the incorrect-low overlap antecedents. According to Cook, if episodic information about the antecedent became available at the same rate as semantic information, processing of the anaphor should have been equally difficult in both incorrect conditions. Because the incorrect-high overlap anaphor was still processed more quickly than the incorrect-low overlap anaphor, Cook suggested that semantic information was becoming available and was integrated faster than episodic information.

In another attempt to increase the rate at which episodic information is returned, Cook (2004) manipulated syntactic focus to increase the salience of the episodic memory trace of the incorrect-high overlap antecedent. For example, instead of stating “As she entered the store she saw a beautiful violin,” the text was changed to “There was this beautiful violin that Terry saw as she entered the store.” However, despite this change, the episodic trace was still not returned as fast as the semantic memory trace. In fact, the only time the episodic trace of the antecedent was returned before the semantic trace was when the text did not include any semantic information about the antecedent. Cook hypothesized that including semantic information about the antecedent resulted in additional semantic information about the antecedent becoming reactivated and returned faster than the episodic information. When no semantic information was included, the

Table 6.

Sample Passage used by Cook (2004) in Experiment 3.*Introduction*

Terry loved classical music. She spent most of her waking hours listening to it, either in her room or in the car.

Correct Antecedent

Terry decided that it would be fun to teach herself how to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful cello. The large instrument was almost bigger than she was. Terry decided she wanted to learn how to play it. She imagined herself sitting down to play the heavy instrument. Terry asked the salesman for a price. After thinking for a few minutes, she decided to buy it that afternoon.

Incorrect - High Overlap Condition

Terry decided that it would be fun to teach herself how to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful violin. It was very lightweight and fit perfectly between her chin and shoulder. She imagined herself dancing as she played beautiful music. Terry asked the salesman for a price. After thinking for a few minutes, Terry decided to buy it that afternoon.

Incorrect - Low Overlap Condition

Terry decided that it would be fun to teach herself to play. She drove to a music shop located in the next town. As she entered the store she saw a beautiful oboe. The keys were bright and shiny, and the case was lined in black velvet. Terry decided she wanted to learn how to play it. She imagined herself fingering the keys to create perfect notes. Terry asked the salesman for a price. After thinking for a few minutes, she decided to buy it that afternoon.

Filler

When Terry arrived home she found a message on her answering machine from her friend Jill. Because Terry hadn't spoken to Jill in over a week, she decided to invite her over for coffee. When Jill came over, she told Terry that she had a new boyfriend. After chatting about Jill's new boyfriend for a while, Jill asked Terry about what was new with her.

Reinstatement and Spillover Sentences

Terry showed her the cello she bought.
She even tried to play a few notes.

Closing

Terry told Jill that she was going to start practicing that very evening.

information in the semantic memory trace took longer to build up and be returned, allowing information in the episodic memory trace to be returned first.

More evidence for an interaction between episodic and semantic information during antecedent retrieval comes from Myers, Cook, Kambe, Mason, and O'Brien (2000). In the Myers et al. experiments, participants read pairs of sentences requiring a bridging inference between a category in one sentence (e.g., emergency supplies) and a typical (e.g., candles) or atypical (e.g., lanterns) exemplar of that category in the following sentence. They also manipulated the episodic memory trace by mentioning the exemplar earlier in the text. Consider the example presented in Table 7. Early on in the passage the target (e.g., candles or lanterns) is mentioned. After being backgrounded by several lines of text, a category sentence appears (e.g., Tim got the emergency supplies) followed by reinstatement of the target (e.g., The candles/lanterns saved the day). Myers et al. varied the amount of text between the antecedent and the anaphor. When reading times on the reinstatement sentence were measured, they found both a distance and a typicality effect. That is, the reinstatement sentence was read faster when the anaphor and the antecedent were closer together than when they were further apart in the text. Also, reading times were shorter when the target was a more typical exemplar (e.g., candles) than when the target was an atypical exemplar (e.g., lanterns). This indicates that the sentence containing the exemplar activated both the episodic (i.e., the distance effect) and semantic (i.e., the typicality effect) memory traces. This makes sense as the exemplar would be linked to both its category (semantic information) and its mention earlier in the text (episodic information).

Table 7.

Sample passage used by Myers et al. (2000).

Introduction

Mr. and Mrs. Baker and their son Tim listened to the six P.M. newscast after they had finished eating supper. It had been raining and extremely windy all day. The weatherman reported that the storm was expected to get much worse. He noted that in counties to the west there had already been loss of electricity due to power failures.

Establishing the target (candles/lanterns):

The news report urged all residents to prepare emergency supplies. Mr. Baker told Tim to get the candles/lanterns which were stored in the basement.

Background:

Then the Bakers completed preparations for the coming storm. [Mrs. Baker checked to make sure all the storm windows were closed. Tim checked the food supplies, looking for canned things that would not require cooking. Finally, they filled an ice chest with ice cubes from the freezer, so the refrigerated meats could be stored if they lost electricity.] All of a sudden there was a huge flash of lightning. Suddenly, the lights flickered.

Category sentence:

Tim got the emergency supplies.

Target sentence:

The candles/lanterns saved the day.

Closing:

They used the light to prepare dinner from cans of tuna fish.

In a separate experiment, Myers et al. (2000) manipulated the episodic trace of the exemplar by varying the amount of elaboration the antecedent received at the beginning of the text. Elaboration has been shown to increase the accessibility of a concept (O'Brien et al., 1990; 1995; Cook et al., 2004). However, in this case the elaborated antecedents were not read significantly faster than the unelaborated antecedents. The authors again assumed parallel access to episodic and semantic information. However, this should have led to faster reinstatement times in the elaborated condition, because the elaboration would have resulted in more connections in the episodic trace, allowing it to be returned faster than the semantic trace. Myers et al. claimed that integration of the additional propositions in the elaboration condition slowed down processing, resulting in times equivalent to the unelaborated condition. Overall, they concluded that semantic and episodic information are activated in parallel, but the differences in the effects of each on reinstatement may be a function of processes that occur during integration.

Rizzella and O'Brien (2002) also investigated the interaction of episodic and semantic memory during retrieval. They attempted to reconcile previous research that had found that central concepts were more likely to be recalled and were recognized faster than peripheral concepts in narrative texts (Albrecht & O'Brien, 1991), with other research that has shown the opposite result for script-based texts (Yekovich & Walker, 1986). Rizzella and O'Brien did this by manipulating the centrality of concepts and theme relatedness of concepts in both narrative and script-based texts. After reading short passages, readers were presented with a recognition probe and they had to decide whether or not the word appeared in the text. Rizzella and O'Brien argued that the central

concepts in script-based texts have two representations, one in the episodic trace and one in semantic memory. Central concepts in narrative texts on the other hand lack a pre-existing relationship to the theme of the passage, and therefore are only represented in the episodic trace of the text.

Consider the example presented in Table 8. In the script-based text, the central concept “waiter” is both central to the text and highly related to the theme of the passage (i.e., going to a restaurant). The peripheral concept “hostess” is less closely tied to the theme of the passage. “Waiter” is therefore represented in both the episodic representation of the text and in semantic memory, while “hostess” has a much stronger trace in the episodic representation than in the semantic memory trace. When “waiter” is presented for recognition, the reader has difficulty distinguishing between the two traces and experiences source confusion. That is, information is returned from both the episodic and the semantic memory trace, and the reader has trouble distinguishing if “waiter” appeared in the text (i.e., the episodic trace) or if it just exists in general world knowledge (i.e., the semantic memory trace). The discrimination for “hostess” is much easier because the semantic trace is not as strong as the episodic trace. Therefore, a slowdown occurs for central concepts as compared to peripheral concepts in script-based texts.

Now consider the narrative text in Table 9. The central concept “train” is important to the text, but has no or little pre-existing association to the theme of the passage (i.e., memories of a marriage). Therefore, “train” is almost exclusively represented in the episodic trace of the text. When the concept is later presented for recognition, a signal will again be sent out to all of memory, including both the episodic

Table 8.

Sample passage used by Yekovich & Walker (1986) and Rizzella & O'Brien (2002).

Going to a Restaurant

Jack and his girlfriend Chris decided to go out to a nice restaurant. They called to make a reservation and then they drove to the restaurant. When they arrived, Jack opened the door and they went inside. Jack gave his name to the hostess at the reservation desk. In a few minutes, Jack and Chris went into the dining room. The waiter introduced himself and gave Jack and Chris their menus. They discussed the menu. When their meal was served, Jack and Chris ate leisurely. They talked and admired the view. Later, they decided to order dessert. Jack and Chris ate most of their dessert. It was late, so Jack asked for the check. The service had been good, so they gave the waiter a big tip. They paid the check and got their coats. Jack and Chris walked out of the restaurant. They got their car and drove home.

Example Recognition Word List

dessert

cocktail (central foil)

chef

meal (central target)

booth

tip

hostess (peripheral target)

waiter

table (peripheral foil)

napkin

menu

plate

Table 9.

Sample passage used by Albrecht & O'Brien (1991) and Rizzella & O'Brien (2002).

Memories of a Marriage

Sara couldn't believe that it had happened over twenty years ago. When she was a senior in high school, she fell in love with John. They wanted to get married but both of their parents wanted them to attend college. They decided that they would elope and get married. Late one night, Sara climbed down a ladder outside her window. She sneaked out and put the ladder there that evening after dinner. Their plan was to meet downtown at 8:00 p.m. They each had scrounged together all the money that they had and took it with them. They wanted to take a train to a small town about two hundred miles away. Sara can still remember riding it. At the time, she thought it was a romantic way to elope. The train reminded her of the old movies in which the two lovers would escape from the rest of the world. She still remembers the burning coal from its engine. There were very few people on it which made it even more romantic. As it came to a stop in the town, Sara realized that they did not have a place to stay. Having no choice, they decided to stay in the cheapest hotel they could find. Luckily, they didn't have to wander far before they found a place. In the morning, they would go to town hall and get their marriage license. They didn't realize that the license would cost them ten dollars but they needed it to get married. They spent their last ten dollars on it. A week after they eloped and got married, they called their parents to let them know they were all right. Both of their parents quickly accepted the fact that they were married. In fact, John's parents offered them a place to stay on their farm until they could find another place to live. Now twenty years later, Sara couldn't imagine life without the farm.

Example Recognition Word List

train (central target)

station

ladder (peripheral target)

priest

house

and semantic traces, but with little or no activation coming from semantic memory, readers are faster to recognize central concepts as having come from the text than peripheral concepts, which receive less activation from the episodic trace.

Rizzella and O'Brien (2002) varied the type of text (script versus narrative), text centrality (concepts were central or peripheral as defined by the amount of elaboration), and theme relatedness (concepts were either high-related or low-related to the theme of a text). Across a series of thirteen experiments, they found that in almost all instances concepts that were central to a text were generally more accessible than concepts that were peripheral. The only time this was not true was when script-based texts were used, the amount of elaboration for central and peripheral concepts was the same, and centrality was based on theme relatedness, as opposed to interconnectedness within a text. It was only under these specific conditions that peripheral concepts were easier to access than central concepts.

Rizzella and O'Brien (2002) explained their results using the resonance model (Myers & O'Brien, 1998; O'Brien & Myers, 1999). They were assuming that both the episodic trace of the text and semantic memory were being searched simultaneously. Central (i.e., elaborated) concepts were accessed more quickly because activation spread more quickly through all of the connections in the episodic trace (created by the elaboration) than for peripheral concepts, which did not have as many connections; this activation also spread faster than it would have in the semantic memory trace, which did not have the same number of connections. When elaboration was held constant and theme relatedness was the measure of centrality, peripheral concepts were accessed faster

because central concepts had a strong representation in both the semantic memory trace and the episodic memory trace, resulting in source confusion. Peripheral concepts were only represented in the episodic memory trace, eliminating any source confusion among participants.

Despite the relatively few number of studies that have investigated the interaction between episodic and semantic memory during retrieval, the few that have been done all agree on a few important findings. First, both the episodic and semantic traces are accessed in parallel. Second, what type of information is retrieved faster depends on the characteristics of the text (e.g., script or narrative, elaboration, what type of information is included in the text). Third, the rate of return also depends on the type of question that is being asked of the reader (e.g., Is the anaphor a definite description or a pronoun?). It is by discovering more about the interaction between episodic and semantic memory during retrieval that the status of name- and title-designated characters will be better understood.

One problem with previous studies of name- and title-designated characters is that they used texts that were composed of only a few short sentences. Using such short texts limits the number of factors that can be explored. For example, one very real possibility is that the character that is more accessible is the one that was mentioned the most often, regardless of the presence of a proper name or the order of mention. Also, it is possible that the distance between an anaphor and its antecedent may affect how quickly the antecedent is reinstated. Obviously, these variables would require a text that is longer than two sentences. A longer text would also more closely resemble texts that readers encounter in everyday situations. The current set of experiments proposed in Chapter Six

is designed to extend the work of previous studies to longer texts, and to explore other variables, such as how frequently a character is mentioned and the distance between the anaphor and the antecedent.

CHAPTER VI

EXPERIMENTS

The previous chapters summarized research on the differences between proper names and titles, antecedent retrieval, the advantages that name-designated characters have over title-designated characters, and current theories that may explain the differences. Most of the differences that exist between name- and title-designated characters become apparent during antecedent retrieval. That is, name-designated characters are more accessible in memory than title-designated characters. However, Chapter Two demonstrated that other variables such as elaboration and distance may also affect reinstatement times, while Chapter Three explained that the order in which characters are introduced may also affect accessibility. Chapter Five also discussed how an interaction between the information contained in the episodic memory trace of the text and semantic memory may affect the accessibility of name- and title-designated characters. The research proposed in the experiments below examined how these factors interact to influence the reinstatement of name- and title-designated characters during reading.

Experiment 1a

Perhaps one of the reasons that name-designated characters are more accessible than title-designated characters is that they are considered to be more important than title-

designated characters. This may be because readers assume that the name-designated character is the protagonist, thus making it more accessible in memory. In Experiment 1a, participants read short texts featuring a name- and a title-designated character. At the end of the text, they were asked to rate the importance of the name and title-designated characters on a scale of 1 (irrelevant) to 7 (most important). This provided an off-line measure with which to compare the results of later on-line experiments. Participants were also asked to choose the main character in the text (i.e., the name- or the title-designated character).

Method.

Participants. Participants were 50 University of New Hampshire undergraduates who received partial course credit for their involvement in the experiment.

Materials. Each participant was given a booklet containing 28 passages, 1 passage per page. See the example presented in Table 10. Each passage began with an introductory section that was composed of four sentences, with an average length of 50.78 words. The introduction began by mentioning either the title- or the name-designated character. Within each passage, the name- and title-designated character consisted of approximately the same number of characters. Both characters were mentioned twice explicitly and twice implicitly. All pronouns used to refer to the title-designated character were consistent with the stereotypic gender for that role (e.g., the nurse was female, the plumber was male). The introduction was followed by a backgrounding section of approximately 50.03 words. Neither character was mentioned

Table 10.

Example text used in Experiment 1a.

The professor had read Christopher's paper but he didn't think it was very good. He knew it wouldn't be a pleasant meeting. Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

Who is the main character in the story? (Circle One)

The Professor

Christopher

Please rate the importance of each character on a scale of 1 (irrelevant) to 7 (very important).

The Professor

1	2	3	4	5	6	7
irrelevant	not important	neutral	somewhat important	very important		

Christopher

1	2	3	4	5	6	7
irrelevant	not important	neutral	somewhat important	very important		

during the backgrounding section. This was done to ensure that neither character was active in memory when participants were answering the questions.

Two sets of booklets were generated; in each set, half of the passages began with the title-designated character and the remaining half began with the name-designated character. Regardless of which character was introduced first, the four sentences in the introduction were the same, only the order was different. Across both sets, each passage appeared once in each of the two conditions.

Procedure. Participants were randomly assigned to one of two material sets and were run in a group classroom setting. Participants were instructed to read each passage carefully. After each passage, participants were presented with a question asking them to choose the main character in each story. They were then presented with a question asking them to rate on a 7-point scale—(1 irrelevant) to 7 (very important)—the importance of each character. Both questions were presented on the same page as the passage.

Results and Discussion.

In all analyses reported, F_1 refers to tests against error terms based on participants variability, and F_2 always refers to tests against an error term based on items variability. All analyses were significant at the standard alpha level of .05, unless otherwise indicated.

The mean importance ratings for the title-designated character when it was presented first and second were 5.46 and 5.28, respectively. The mean importance ratings for the name-designated character when it was presented first and second were 5.46 and 5.24, respectively. A paired samples t-test revealed that both of these contrasts were significant, for the title-designated character, $t(27) = 2.32$ and for the name-designated

character, $t(27) = -3.12$.

When the title-designated character was introduced first, participants chose it as the main character 56% of the time, as opposed to 37% of the time when it was introduced second. When the name-designated character was introduced first, participants chose it as the main character 63% of the time, and 44% of the time when the name-designated character was introduced second. A two-way contingency table analysis was conducted to evaluate whether title-designated or name-designated characters were chosen more often as the protagonist as a function of which character was introduced first. The two variables were type of introduction with two levels (name-designated character first or title-designated character first) and protagonist with two levels (name- or title-designated character). Type of introduction and protagonist were not related, $p > .05$.

These results indicate that the order of introduction does affect which character is rated as more important, but it does not affect which character is more likely to be chosen as the protagonist. Because this was an offline measure, the results do not reflect how available each character was in memory. For example, participants may have re-read the text before answering the questions. Experiment 1b was designed to avoid this problem.

Experiment 1b

Experiment 1b was designed to provide an online test using the same materials as in Experiment 1a. Although the tendency for participants to choose the first mentioned character as the protagonist more often than the character that was introduced second was not reliable in Experiment 1a, it may be that the first mentioned character is more

accessible in memory during reinstatement, regardless of name or title designation. On the other hand, as demonstrated in previous studies (e.g., Anderson et al., 1983; McDonald & Shaibe, 2002; Sanford et al., 1988), the name-designated character may be more accessible during reinstatement.

The same materials were used as in Experiment 1a with the addition of a reinstatement sentence and a brief closing section. The reinstatement sentence was designed to reinstate either the name- or title-designated character (e.g., Christopher/The professor was unhappy with the paper.). Reading time on the reinstatement sentence was used as an online measure of accessibility. Both the order of introduction (i.e., name-designated character first or title-designated character first) and reinstatement condition (i.e., either the name-or title-designated character was reinstated) were manipulated.

Method.

Participants. Participants were 40 University of New Hampshire undergraduates who did not participate in Experiment 1a. Participants received partial course credit for their participation.

Materials. The materials were the 28 passages used in Experiment 1a, with a few modifications. See the example presented in Table 11. The introductory and backgrounding sections were the same, but this time, the backgrounding section was followed by a reinstatement sentence designed to reinstate either the name- or the title-designated character. There were two versions of each reinstatement sentence; one reinstated the name-designated character (e.g., Christopher was unhappy with the paper.) and the other reinstated the title-designated character (e.g., The professor was unhappy

Table 11.

Example Text used in Experiment 1b.

Introduction title

The professor had read Christopher's paper but he didn't think it was very good. He knew it wouldn't be a pleasant meeting. Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor.

Introduction name

Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor. The professor had read Christopher's paper but he didn't think it was very good. He knew it wouldn't be a pleasant meeting.

Backgrounding Section

The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

Reinstatement Sentence

The professor was unhappy with the paper.
Christopher was unhappy with the paper.

Closing

Most students would end up doing poorly on the paper. Christopher was glad that he had time to change his paper.

Did Christopher have to write a history paper?

with the paper.). The only difference between the two versions was which character was mentioned; the rest of the wording was identical. The reinstatement sentence was followed by a brief closing section and a comprehension question. Questions focused on information from the passage other than that surrounding the antecedent. There were an equal number of "yes" and "no" comprehension questions. Twenty-eight filler passages that did not require reinstatement were also included.

Procedure. Participants were randomly assigned to one of the four materials sets. Each participant was run individually in a session that lasted approximately one hour. All materials were presented on a monitor controlled by a Dell 386 microcomputer.

Participants were instructed to rest their right thumbs on a line-advance key, their right index fingers on a "yes" key, and their left index fingers on a "no" key. Each trial began with the word "READY" in the middle of the screen. When participants were ready to read a passage, they pressed the line-advance key. Each press of the key erased the current line and presented the next line. Comprehension time was measured as the time between key presses. Each participant was instructed to read at a comfortable, normal reading pace. After the last line of the passage disappeared from the screen, the cue "QUESTIONS" appeared in the middle of the screen for 2000 ms, followed by the comprehension question. Participants were instructed to respond to the comprehension question by pressing either the "yes" or the "no" key. Participants were also instructed that answering the comprehension questions was the most important part of the experiment, and that they should respond as quickly as possible without sacrificing accuracy. On the trials in which participants made errors, the word "ERROR" appeared in

the middle of the screen for 750 ms. Before beginning the experimental passages, participants read three practice passages to ensure that they were thoroughly familiarized with and understood the procedure.

Results and Discussion.

For all remaining analyses reported in this dissertation, excluding Experiment 2a, all scores that were two and a half standard deviations or more from a participant's mean were eliminated, this led to the exclusion of approximately 2.2% of the data from further analyses.

The mean reading times are presented in Table 12. There was a significant main effect of reinstatement condition, $F_1(1,36) = 8.98$, $MSe = 27,899$; $F_2(1,24) = 3.76$, $MSe = 55,113$ ($p = .06$), but there was no main effect of introduction, $F_1 < 1$; $F_2(1,24) = 2.38$, $MSe = 21,593$, $p = .13$. Planned comparisons revealed that order of mention did not affect reading times when either the name-designated character was reinstated, $F_1 < 1$; $F_2 < 1$, or the title-designated character was reinstated, $F_1 < 1$; $F_2(1,24) = 1.63$, $MSe = 56,726$, $p = .21$. However, the name-designated character was always reinstated more quickly regardless of whether the title-designated character was mentioned first, $F_1(1,36) = 4.56$, $MSe = 31,470$; $F_2(1,24) = 3.17$, $MSe = 89,356$ ($p = .087$), or the name-designated character was mentioned first, $F_1(1,36) = 6.13$, $MSe = 55,264$; $F_2(1,24) = 6.95$, $MSe = 66,957$.

The combined results of the first two experiments indicate that while order of mention may influence the offline importance of each character, it does not affect the accessibility of name- or title-designated characters during reading.

Table 12.

Mean reading times of the reinstatement sentence in Experiment 1b as a function of introduction.

	Title Introduced First	Name Introduced First
Title Reinstated	1840	1847
Name Reinstated	1781	1748

Experiment 2a

Taken together, Experiments 1a and 1b demonstrated that order of mention does not affect which character is considered to be the protagonist, nor does it influence how quickly name- and title-designated characters are reinstated. Instead, Experiment 1b demonstrated that only the type of designation (i.e., name or title) affected character accessibility. That is, name-designated characters were always reinstated more quickly than title-designated characters, regardless of which character was introduced first.

Experiments 2a and 2b were designed to investigate the effects of elaboration on reinstatement. As described in Chapter Two, elaboration increases the speed with which antecedents become reactivated by increasing the number of retrieval routes to that antecedent. As in Experiment 1a, Experiment 2a was a norming study designed to provide an off-line measure of which character was considered to be the protagonist. Participants were also asked to rate the importance of each character. Elaboration is one way to increase the importance of a concept, and this may increase accessibility (e.g., O'Brien, 1987).

Method.

Participants. Participants were 80 University of New Hampshire undergraduates who had not participated in the first two experiments. Participants received partial course credit for their participation.

Materials. The materials were 40 passages. See the example presented in Table 13. The passages began with an introductory section that was approximately 85 words long. As in earlier experiments, the introduction began by mentioning either the name- or the

Table 13.

Example Text used in Experiment 2a.

The professor had read Christopher's paper but he didn't think it was very good. Christopher had been hoping for a good grade. He would be upset when he saw the grade. After years of teaching, the professor still didn't know how to handle conflict. He felt uncomfortable telling students that they did poorly. He wished that he could spend more time writing but he was required to teach two classes a semester. He thought teaching would get easier but it had only gotten more difficult. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

Who is the main character in the story? (Circle One)

Christopher

The Professor

Please rate the importance of each character on a scale of 1 (irrelevant) to 7 (very important).

Christopher

1	2	3	4	5	6	7
irrelevant	not important		neutral	somewhat important		very important

The Professor

1	2	3	4	5	6	7
irrelevant	not important		neutral	somewhat important		very important

title-designated character. The elaborated character was mentioned twice explicitly and six times implicitly. The nonelaborated character was mentioned twice explicitly and twice implicitly. In half of the passages, the name-designated character was elaborated and in the remaining passages, the title-designated character was elaborated. In those passages in which the name-designated character was elaborated, half began by mentioning the name-designated character while the other half began by mentioning the title-designated character first. The only difference between the passages was the order of mention, the sentences remained the same. For the passages in which the title-designated character was elaborated, half first mentioned the title-designated character while the other half began with the name-designated character. Again, the only difference between the passages was the order of the sentences. The introduction was followed by the same backgrounding section as in the first two experiments. Neither character was mentioned during this time.

Four sets of booklets were constructed. Across the four sets, each passage appeared once in each condition.

Procedure. Participants were randomly assigned to one of the four materials sets. The rest of the procedure was the same as in Experiment 1a.

Results and Discussion.

The number of times each character was chosen as the protagonist in Experiment 2a are presented in Table 14. A two-way contingency table analysis was conducted to evaluate whether order of introduction and elaboration affected which character was likely to be chosen as the protagonist. The variables were order of introduction with two levels (name- or title-designated character was introduced first), type of elaboration with two

Table 14.

Number of times each character was chosen as the main character as a function of order of introduction and elaboration.

	Title Introduced First		Name Introduced First	
	Title Elaborated	Name Elaborated	Title Elaborated	Name Elaborated
Title	16.65	4.00	14.90	2.25
Name	3.35	16.00	5.10	17.75

levels (either the name- or title-designated character was elaborated), and protagonist with two levels (either the name- or title-designated character was chosen as the protagonist). A significant relationship was found, Pearson $\chi^2(3, N = 80) = 32.72$. When the title-designated character was introduced first, the title-designated character was chosen as the protagonist when it was elaborated 83% of the time and the name-designated character was chosen as the protagonist 80% of the time when it was elaborated. When the name-designated character was introduced first, the title-designated character was chosen as the protagonist when it was elaborated 75% of the time, while the name-designated character was chosen 89% of the time when it was elaborated. Clearly, the elaborated character is chosen as the protagonist more often than the unelaborated character, regardless of which character was introduced first.

The mean importance ratings for each character are presented in Table 15. A series of t-tests revealed that the elaborated character was always rated as more important than the unelaborated character, regardless of which character was introduced first. The results are presented in Table 16. The Type I error rate was controlled with the Bonferroni procedure, with $EF = .05$.

Experiment 2b

As in Experiment 1b, Experiment 2b was designed to provide an online test of the results found in Experiment 2a. In the norming study participants were more likely to choose the elaborated character as the protagonist, and they also rated the elaborated

Table 15.

Mean importance ratings for Experiment 2a.

	Title Introduced First		Name Introduced First	
	Title Elaborated	Name Elaborated	Title Elaborated	Name Elaborated
Title	5.87	4.65	5.79	4.46
Name	4.48	5.76	4.65	5.87

Table 16.

T-test results for the mean importance ratings in Experiment 2a.

	Title Introduced First		Name Introduced First	
	Title Elaborated	Name Elaborated	Title Elaborated	Name Elaborated
Title	5.87	4.65	5.79	4.46
Name	4.48	5.76	4.65	5.87
	$t(39) = 12.44^*$	$t(39) = -10.12^*$	$t(39) = 7.61^*$	$t(39) = -10.28^*$

* all contrasts were significant using the Bonferroni procedure, with $EF = .05$.

character as more important than the unelaborated character. Experiment 2b measured reading time on the reinstatement sentence to determine whether these effects carried over into an advantage during reinstatement for the elaborated character.

Methods.

Participants. Participants were 80 University of New Hampshire undergraduates who had not participated in the first three experiments. Participants received partial course credit for their participation.

Materials. The materials were the 40 passages used in Experiment 2a with a few modifications (see the example in Table 17). First, after the backgrounding section, one of two reinstatement sentences appeared. The reinstatement sentence was designed to reinstate either the name- or the title-designated character. As in Experiment 1b, the only difference between the two sentences was which character was mentioned; the rest of the wording remained the same. This sentence was followed by a brief closing section and a comprehension question. Questions focused on information from the passage other than that surrounding the antecedent. There were an equal number of “yes” and “no” comprehension questions.

Procedure. The procedure was the same as in Experiment 1b.

Results and Discussion.

The mean reading times for Experiment 2b are presented in Table 18. There was a significant main effect of introduction when tested against participant variability $F_1(1,72) = 4.01$, $MSe = 63,112$; but not when tested against item variability $F_2 < 1$. Once again, there

Table 17.

Example Text used in Experiment 2b.

Introduction title – title elaborated

The professor had read Christopher's paper but he didn't think it was very good. Christopher had been hoping for a good grade. He would be upset when he saw the grade. After years of teaching, the professor still didn't know how to handle conflict. He felt uncomfortable telling students that they did poorly. He wished that he could spend more time writing but he was required to teach two classes a semester. He thought teaching would get easier but it had only gotten more difficult.

Introduction name – title elaborated

Christopher had been hoping for a good grade. He would be upset when he saw the grade. The professor had read Christopher's paper but he didn't think it was very good. After years of teaching, the professor still didn't know how to handle conflict. He felt uncomfortable telling students that they did poorly. He wished that he could spend more time writing but he was required to teach two classes a semester. He thought teaching would get easier but it had only gotten more difficult.

Introduction name -- name elaborated

Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor. The professor had a reputation for being strict. He wanted things a certain way and he didn't take no for an answer. Christopher was nervous because he needed a good grade. He had been given an academic scholarship but needed to maintain a certain grade point average. He found it to be more difficult than he had anticipated.

Introduction title – name elaborated

The professor had a reputation for being strict. He wanted things a certain way and he didn't take no for an answer. Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor. Christopher was nervous because he needed a good grade. He had been given an academic scholarship but needed to maintain a certain grade point average. He found it to be more difficult than he had anticipated.

Backgrounding Section

The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

Reinstatement Sentence

The professor was unhappy with the paper.

Christopher was unhappy with the paper.

Closing

Most students would end up doing poorly on the paper. Christopher was glad that he had time to change his paper.

Question

Was the assignment to write a short play?

Table 18.

Mean reading times in milliseconds of the reinstatement sentence in Experiment 2b.

	Title Introduced First		Name Introduced First	
	Title Elaborated	Name Elaborated	Title Elaborated	Name Elaborated
Title	2055	2130	2019	2035
Name	2056	1967	2049	1947

was a significant main effect of reinstatement condition, $F_1(1,72) = 7.79$, $MSe = 62,719$; $F_2(1,32) = 3.38$, $MSe = 41,031$ ($p = .08$). The main effect of elaboration was not significant $F_1(1,72) = 2.24$, $MSe = 44,141$; $p = .13$; $F_2 < 1$. There was also a significant interaction between elaboration and reinstatement $F_1(1,72) = 12.62$, $MSe = 63,159$; $F_2(1,32) = 29.48$, $MSe = 21,652$. When the title-designated character was elaborated, it was not reinstated any faster than the name-designated character when the title-designated character was introduced first, $F_1 < 1$; $F_2(1,32) = 1.59$, $MSe = 42,427$, $p = .21$, but when the name-designated character was introduced first, the title-designated character was faster only when tested against item variability, $F_1 < 1$; $F_2(1,32) = 3.96$, $MSe = 29,791$. When the name-designated character was elaborated, it was reinstated faster than the title-designated character, when both the title-designated character was introduced first, $F_1(1,72) = 20.19$, $MSe = 105,378$; $F_2(1,32) = 13.1$, $MSe = 42,091$, and the name-designated character was introduced first, $F_1(1,72) = 6.72$, $MSe = 93,231$; $F_2(1,32) = 7.78$, $MSe = 107,060$.

These results indicate that the results of Experiment 2a do not entirely carry-over to antecedent reinstatement. The character considered to be more important is not necessarily reinstated faster than the less important character: The elaborated character was only reinstated faster when it was the name-designated character. However, elaborating on the title-designated character did eliminate the advantage for the name-designated character found in Experiment 1b. That is, repeating the title in the text increased its accessibility during reinstatement.

These results are consistent with the predictions of the memory-based text

processing view; those concepts that share the greatest featural overlap with the incoming text will be reinstated the fastest. Directly repeating a concept in a text is the easiest way to create featural overlap. Despite the elaboration, the title-designated character was never reinstated faster than the name-designated character because of the semantic information that is also reactivated when the title-designated character is reinstated, causing source confusion in the reader.

Experiment 3

Experiment 2b demonstrated that elaboration can affect how quickly a character is reinstated. It is also possible that the type of elaboration makes a difference. That is, simply mentioning one character's name more often than the other character increases the representation of that character in the episodic memory trace of the text; it does not affect the semantic memory trace. As suggested earlier, name-designated characters may be reinstated faster than title-designated characters because names do not produce competing activation as titles do. That is, information from the episodic memory trace will resonate in response to a name, but information from both the episodic memory trace and the semantic memory trace will resonate in response to a title, resulting in competing activation and source confusion; readers are not sure whether the resonating information was part of the text or from general world knowledge. Perhaps it is possible to increase the amount of semantic information in the episodic memory trace of the text as a way to manipulate how quickly the title-designated character is reinstated.

In Experiment 3, either the episodic or semantic memory trace of the title-designated character was elaborated. Consider the example presented in Table 19. In the

Table 19.

Example Text used in Experiment 3.

Introduction title – semantic elaboration

The professor's duties consisted of teaching and research. He preferred to do research, but teaching was very time consuming. He spent a lot of time grading papers and preparing lectures. Christopher wondered what the professor thought about the paper. Christopher worked hard and had been hoping for a good grade. He would be upset when he saw the low grade.

Introduction name – semantic elaboration

Christopher wondered what the professor thought about the paper. Christopher worked hard and had been hoping for a good grade. He would be upset when he saw the low grade. The professor's duties consisted of teaching and research. He preferred to do research, but teaching was very time consuming. He spent a lot of time grading papers and preparing lectures.

Introduction name -- episodic elaboration

Christopher needed help with the final paper so he had scheduled an appointment to meet with the professor. The professor was very intimidating. He was very tall, always wore black, and had a reputation for being rude. He was very old but no one knew exactly how old. At the last minute, Christopher wondered if he should cancel the meeting.

Introduction title – episodic elaboration

The professor was very intimidating. He was very tall, always wore black, and had a reputation for being rude. He was very old but no one knew exactly how old. Christopher needed help with the final paper so he had scheduled an appointment to meet with the professor. At the last minute, Christopher wondered if he should cancel the meeting.

Backgrounding Section

The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

Reinstatement Sentence

The professor was unhappy with the paper.
Christopher was unhappy with the paper.

Closing

Most students would end up doing poorly on the paper. Christopher was glad that he had time to change his paper.

Question

Was the assignment to write a short play?

episodic elaboration, traits that are unrelated to the professor's job, or to the meaning of "professor," are elaborated. For example, he is tall, rude, intimidating, and wears black. All of these characteristics should increase the amount of information about the title-designated character in the episodic memory trace of the text. In the semantic elaboration, the characteristics that are semantically associated with "professor" are elaborated: he teaches, does research, grades papers, etc. This will add general world knowledge about professors to the episodic memory trace of the text.

According to Rizzella and O'Brien (2002; see also Cook & Myers, in press), although both the episodic and semantic memory traces of the text are searched simultaneously, the trace that shares the greatest overlap with the incoming text will be returned the fastest. In this case, the incoming text is a reinstatement sentence designed to reinstate either the name- or title-designated character. Recall that reading a title in a text will result in competing activation from the episodic trace of the text and general world knowledge, causing source confusion in the reader. Elaborating the semantic traits of the title-designated character will strengthen the representation of the title-designated character in the episodic memory trace, so that the episodic trace will now contain information that is similar to the information in the semantic memory trace of the text. Therefore, when information from both traces is returned, it can now be more easily integrated with the reinstatement sentence, causing less source confusion on the part of the reader, and decreasing reinstatement times so they are at least as fast as for name-designated characters.

Now consider what happens when the episodic trace of the title-designated

character is manipulated. The number of connections and retrieval routes for the title-designated character have increased, allowing it to be returned as fast, if not faster than the semantic memory trace. Therefore, the title-designated character should now be returned at the same rate as the name-designated character. This is because the elaboration will increase the amount of featural overlap with the reinstatement sentence and will cause information in the episodic trace to be returned faster than information in the semantic memory trace, decreasing if not eliminating source confusion.

If the advantage for name-designated characters is not dependent on which memory trace is returned faster, then the type of elaboration should not make a difference, and reading times on the reinstatement sentence should always be faster when the name-designated character is reinstated. However, it is expected that name-designated characters are typically reinstated more quickly than title-designated characters because the episodic memory trace of the text is being returned faster than the semantic trace, which contains information about the title-designated character. Elaborating on either the semantic or episodic features of the title-designated character should strengthen the episodic memory trace of the text, facilitating the reactivation of the title-designated character, thus making reading times on the reinstatement sentence for the title-designated character at least as fast as for the name-designated characters.

Methods.

Participants. Participants were 80 University of New Hampshire undergraduates who did not participate in the first four experiments. Participants received partial course credit for their participation.

Materials. The materials were based on the 40 passages used in Experiment 2b with some modifications (see the example in Table 19). First, each character was now only mentioned twice explicitly and twice implicitly. The major change was in the type of elaboration. For each passage, there was one of two elaborations. In the semantic elaboration, the semantic features of the title-designated character were elaborated, while in the episodic elaboration, the episodic trace was strengthened by elaborating on traits that are not semantically related to the character's title. The elaboration section was followed by the same backgrounding section that was used in the previous experiments. This was followed by the same reinstatement sentences used in Experiments 1b and 2b, with the addition of a spill-over sentence. Again the only difference between the two sentences is which character is mentioned; the rest of the wording is the same. The reinstatement sentences were followed by a brief closing section and a comprehension question. Questions focused on information from the passage other than that surrounding the antecedent. There were an equal number of "yes" and "no" comprehension questions.

Eight material sets were constructed. Each set contained five texts in each of the eight conditions. Across the eight sets, each text appeared once in each experimental condition. For the semantic elaborations, half of the passages began with the name-designated character, while the remaining half began with the title-designated character. In addition, the reinstatement sentence reinstated the name-designated character in half of the passages and the title-designated character in the remaining half. The texts containing the episodic elaborations were set up the same way.

Procedure. The procedure was the same as in Experiment 2b.

Results and Discussion.

The mean reading times for the first and second critical sentences are presented in Table 20. For the first critical sentence, there was a significant main effect of elaboration type, $F_1(1, 72) = 8.3$, $MSe = 47,144$, $F_2(1, 32) = 16.6$, $MSe = 16,163$; reinstatement, $F_1(1, 72) = 23.9$, $MSe = 67,611$, $F_2(1, 32) = 12.6$, $MSe = 48,632$; but not introduction, $F_1 < 1$; $F_2(1, 32) = 1.5$, $MSe = 21,636$, $p = .22$. None of the interactions were significant. None of the main effects carried over into the second critical sentence, but there was an interaction between elaboration and reinstatement, $F_1(1, 72) = 5.1$, $MSe = 75,026$ on the second critical sentence, but only when tested against participant variability, $F_2(1, 32) = 1.60$, $MSe = 26,569$, $p = .21$.

For the first critical sentence, when semantic traits were elaborated, the name-designated character was reinstated faster than the title-designated character, regardless of whether the title-designated character was introduced first, $F_1(1, 72) = 12.8$, $MSe = 86,561$, $F_2(1, 32) = 10.8$, $MSe = 51,650$; or the name-designated character was introduced first, $F_1(1, 72) = 3.5$, $MSe = 101,067$ ($p = .06$); however the items analysis was not significant, $F_2 < 1$. When the episodic traits were elaborated, the same pattern emerged: the name-designated character was reinstated faster regardless of whether the title-designated character was introduced first, $F_1(1, 72) = 8.2$, $MSe = 125,000$, $F_2(1, 32) = 3.9$, $MSe = 87,714$ ($p = .055$); or the name-designated character was introduced first, $F_1(1, 72) = 9.8$, $MSe = 87,411$, $F_2(1, 32) = 4.8$, $MSe = 94,968$.

An almost identical pattern emerges for the second critical sentence. When the semantic traits were elaborated and the name-designated character was reinstated, the

Table 20.

Mean reading times in milliseconds of the first and second critical sentence in Experiment 3.

First Critical Sentence				
	Semantic Elaboration		Episodic Elaboration	
	Title First	Name First	Title First	Name First
Title	2063	2017	2097	2098
Name	1945	1950	1983	1994
Second Critical Sentence				
	Semantic Elaboration		Episodic Elaboration	
	Title First	Name First	Title First	Name First
Title	2044	2048	2034	1977
Name	1965	1976	2002	2054

spill-over sentence was read faster regardless of whether the title-designated character was introduced first, $F_1(1, 72) = 4.5$, $MSe = 110,617$, but only when tested against participant variability, $F_2(1, 32) = 1.3$, $MSe = 57,686$, $p = .25$; or the name-designated character was introduced first, $F_1(1, 72) = 4.1$, $MSe = 101,051$, but again, only when tested against participant variability, $F_2(1, 32) = 1.27$, $MSe = 86,129$, $p = .26$. When the episodic traits were elaborated, there was no difference in reading time when the title-designated character was introduced first, but the spill-over sentence was read faster when the name-designated character was introduced first, $F_1(1, 72) = 4.0$, $MSe = 117,022$, but this analysis was not significant when tested against item variability, $F_2 < 1$.

Surprisingly, elaborating on the episodic traits or semantic traits of the title-designated character did not influence reinstatement times. It is important to note that both the name- and the title-designated characters were mentioned the same number of times, and both had roughly the same amount of text devoted to them. Combined with the results of Experiment 2, it seems that it is not the type of elaboration, but the amount of elaboration that makes a difference. Although the type of elaboration did not make a difference, Experiment 3 once again demonstrated the advantage that name-designated characters have over title-designated characters. As in the first two experiments, order of mention was irrelevant.

Experiment 4

Experiment 1b showed that name-designated characters were always reinstated faster than title-designated characters. However, in Experiment 2b, reinstatement interacted with elaboration. That is, when the name-designated character was elaborated,

it was reinstated faster than the title-designated character, regardless of which character was introduced first. When the title-designated character was elaborated, it was not reinstated faster than the name-designated character, but the advantage for the name-designated character was eliminated. Experiments 1b, 2b, and 3 included a background section designed to push each character out of working memory before the reinstatement sentence. As described in Chapter Two, previous research has shown that the distance between an anaphor and an antecedent can affect how quickly an antecedent is reinstated. In Experiment 4, the distance between the anaphor and the antecedent was manipulated.

Methods.

Participants. Participants were 40 University of New Hampshire undergraduates who did not participate in the first five experiments. Participants received partial course credit for their participation.

Materials. The materials for Experiment 4 were the same 40 passages used in Experiment 2b with the following modifications (see the example in Table 21). First, each character was only mentioned twice explicitly; there were no implicit mentions of either character. Second, there was a near and a distant condition. In the near condition, the number of intervening words between the last mention of the reinstated character and the reinstatement sentence was approximately 11 words. In the distant condition, the number of intervening words was approximately 78 words. The only difference between the near and the distant condition was the number of intervening words, the rest of the introduction remained the same. Finally, only the character for which distance is being manipulated was reinstated. For those passages in which distance was manipulated for the title-designated

Table 21.

Example Text used in Experiment 4.

Title Near

Christopher had worked really hard on the paper but still needed help from the professor. Christopher had scheduled a meeting with the professor to discuss some unanswered questions about the format of the paper.

Title Distant

Christopher had worked really hard on the paper but still needed help from the professor. Christopher had scheduled a meeting with the professor to discuss some unanswered questions about the format of the paper. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. First a poet had to be selected and then a few major works had to be selected. It took a lot of thought to write a good paper.

Name Near

Christopher had worked really hard on the paper but still needed help from the professor. The professor offered to meet with Christopher to discuss some unanswered questions about the format of the paper.

Name Distant

Christopher had worked really hard on the paper but still needed help from the professor. The professor offered to meet with Christopher to discuss some unanswered questions about the format of the paper. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. First a poet had to be selected and then a few major works had to be selected. It took a lot of thought to write a good paper.

Reinstatement Sentences

The professor was unhappy with the paper.
Christopher was unhappy with the paper.

Spill-over Sentence

It did not turn out as originally planned.

Closing

Most students would end up doing poorly on the paper. Christopher was glad that he had time to change his paper.

Question

Did most students do well on the paper?

character, half mentioned the title-designated character first and half mentioned the name-designated character first. The same was done when distance was manipulated for the name-designated character.

Procedure. The procedure for Experiment 4 was the same as in the previous experiments.

Results and Discussion.

The mean reading times for the first and second critical sentences are presented in Table 22. There was a significant main effect of which character was manipulated (name- or title-designated) for the first critical sentence: $F_1(1, 36) = 11.62$, $MSe = 24,336$; but not when tested against item variability, $F_2(1,36) = 1.7$, $MSe = 112,159$, $p = .20$. The main effect of character type was also significant for the second critical sentence: $F_1(1,36) = 3.59$, $MSe = 34818.99$ ($p = .06$); $F_2(1,36) = 4.22$, $MSe = 40,037$. There was also a significant main effect of distance for the first critical sentence, $F_1(1, 36) = 4.56$, $MSe = 31,762$; $F_2(1,36) = 3.29$, $MSe = 54,550$ ($p = .07$), and the second critical sentence $F_1(1,36) = 3.53$, $MSe = 34,168$ ($p = .06$); $F_2(1,36) = 3.89$, $MSe = 38,068$.

For the title-designated character, the difference between the near and distant condition was marginally significant by both subjects, $F_1(1,36) = 3.19$, $MSe = 62,681$ ($p = .08$); and items $F_2(1,36) = 3.22$, $MSe = 76,600$ ($p = .08$) in the first critical sentence, but there was no difference in the second critical sentence, $F_1(1,36) = 1.32$, $MSe = 58,402$, $p = .25$; $F_2 < 1$. The contrast between the near and distant condition for the name-designated character failed to reach significance in the first critical sentence, $F_1(1,36) = 1.5$, $MSe = 63,082$, $p = .22$; $F_2 < 1$, but it was significant in the second critical sentence, $F_1(1,36) =$

Table 22.

Mean reading times in milliseconds of the reinstatement sentence in Experiment 4.

First Critical Sentence	Near Condition	Distant Condition
Title Reinstated	2223	2153
Name Reinstated	2129	2079
Second Critical Sentence	Near Condition	Distant Condition
Title Reinstated	2150	2106
Name Reinstated	2105	2039

3.05, $MSe = 56,973$ ($p = .08$); $F_2(1,36) = 4.96$, $MSe = 88,592$. That is, the name-designated character was reinstated more slowly when it had occurred recently, as opposed to when it was more distant in the text, but only in the second critical sentence.

The trend for name-designated characters to be reinstated faster than title-designated characters continued in this experiment. In the near condition, the name-designated character was reinstated faster than the title-designated character in the first critical sentence, $F_1(1,36) = 7.54$, $MSe = 47,592$, but the items analysis failed to reach significance, $F_2(1,36) = 1.5$, $MSe = 169,801$, $p = .22$. There was no difference in reinstatement times between the name- and title-designated character in the near condition in the second critical sentence, $F_1(1,36) = 1.38$, $MSe = 58,264$, $p = .24$; $F_2 < 1$. In the distant condition, the name-designated character was again reinstated faster in the first critical sentence than the title-designated character, $F_1(1,36) = 3.4$, $MSe = 63,319$ ($p = .07$), but only when tested against participant variability, $F_2 < 1$. In the second critical sentence, the name-designated character was reinstated faster than the title-designated character in the distant condition, $F_1(1,36) = 3.07$, $MSe = 58,412$ ($p = .08$); $F_2(1,36) = 5.11$, $MSe = 92,965$. Although there were no clear or consistent distant effects, what was clear was that name-designated characters still tended to be more accessible than title-designated characters.

It is somewhat surprising that distance failed to consistently affect accessibility of name- or title-designated characters. For both the name- and title-designated characters, there was a trend for the distant antecedent to be more accessible than the more recent antecedent. This is inconsistent with other findings on distance (e.g., O'Brien et al., 1990;

but see Cook et al., 2004; Levine et al., 2000; Lutz & Radvansky, 1997; O'Brien & Myers, 1987). This may be because of what is known as the repeated name penalty. That is, a number of studies have shown that sentences in short discourses are read more slowly when they use repeated names rather than pronouns (e.g., Gordon, Grosz, & Gilliom, 1993; Gordon & Chan, 1995; Kennison & Gordon, 1997). More importantly, this experiment once again demonstrated the trend for name-designated characters to be more accessible than title-designated characters.

CHAPTER VII

GENERAL DISCUSSION

A number of researchers have found that characters designated by a proper name (e.g., Christopher) are more accessible than characters designated by a title (e.g., The professor). Name-designated characters are more likely to be used in story continuations (Anderson et al., 1983), they are reinstated faster (Sanford et al., 1988), information about name-designated characters is more accessible (Anderson et al., 1983), and name-designated characters are more likely to be associated with background information (Sanford et al., 1998) than title-designated characters.

The goal of this dissertation was to manipulate text and the factors that influence accessibility to determine if the advantage for name-designated characters can be reduced or eliminated. This was done by using texts considerably longer than the texts used in previous studies. This made it possible to consider variables that are known to influence accessibility, but would not otherwise be possible to investigate using one or two sentence texts. Also, longer texts are more similar to the texts that would normally be encountered in everyday situations. Consider order of mention. Gernsbacher (1990) has already demonstrated that in single sentences, the first mentioned character is more accessible than the second mentioned character. It is possible that in a longer text order of mention may interact with character type. Next consider elaboration. Numerous studies have found that

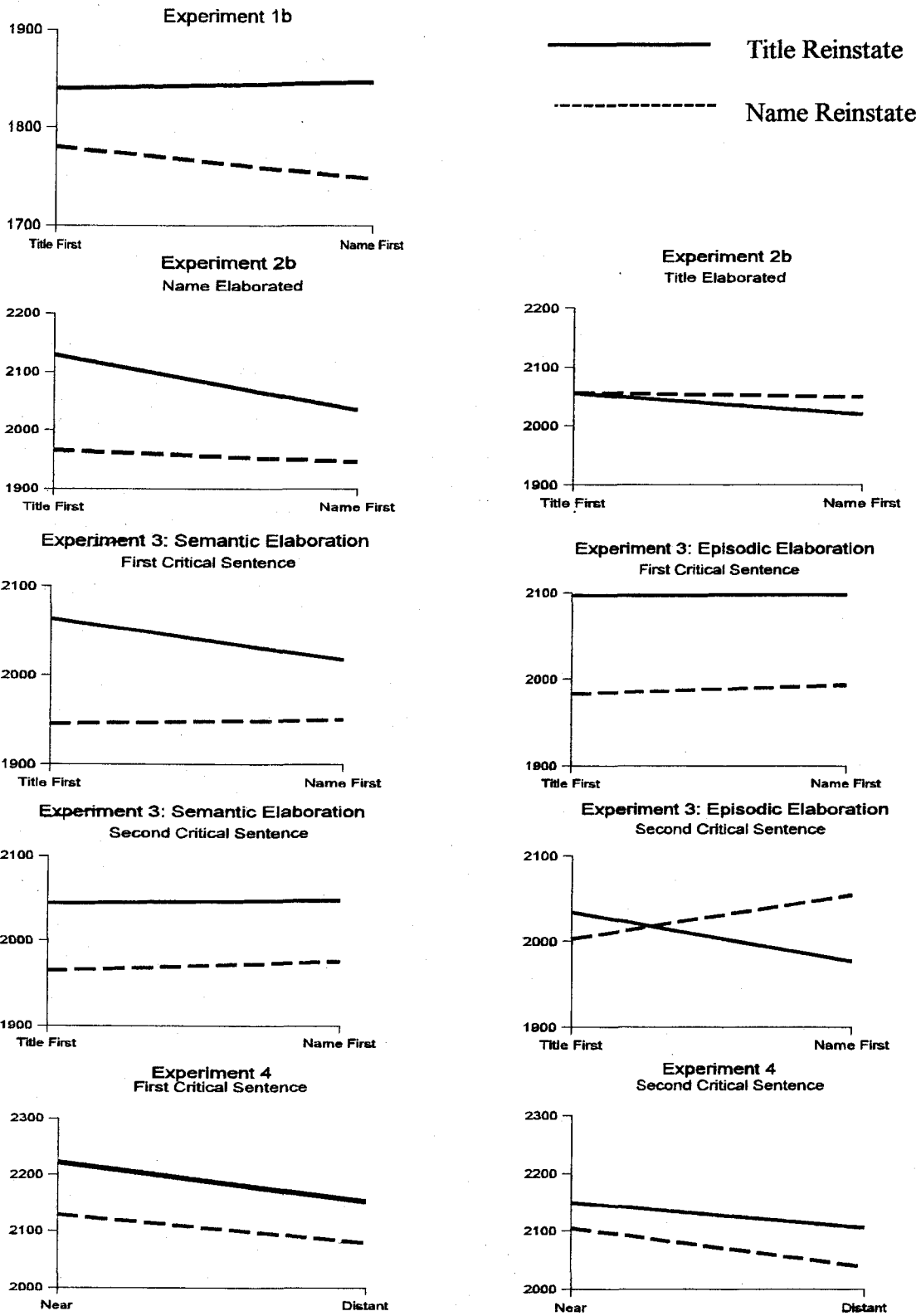
elaborated concepts are more accessible than non-elaborated concepts (e.g., O'Brien et al., 1990), but it is very difficult to elaborate on a concept in a short text. Finally, consider distance. O'Brien et al. (1997) demonstrated that the accessibility of an antecedent decreased as the distance between the antecedent and the anaphor increased. However, once again, distance is impossible to manipulate without using a long text.

Despite using longer texts and manipulating variables known to affect accessibility, across experiments, an overwhelming advantage for name-designated characters was found during reinstatement (see Figure 1 to compare reading times across all experiments). These results can be explained within the memory-based text processing view. First consider order of mention. Although Gernsbacher (1990) has found that the first mentioned character is more accessible when two characters are mentioned in a single sentence, this effect failed to carry over to longer texts. Experiment 1b manipulated order of mention directly; the only difference between conditions was the order in which the characters were introduced. Regardless of the order, the name-designated character was always reinstated faster than the title-designated character. Experiments 2b and 3 also manipulated order of mention, but again, order of mention never affected accessibility. The lack of an order of mention effect is predicted by the memory-based text processing view. Reinstatement is affected by the degree of featural overlap, not the order in which characters are introduced.

Next consider elaboration, which is known to influence the accessibility of a concept by increasing the degree of resonance to a signal. Elaboration works by creating more retrieval routes to a concept, thus making it more accessible. Experiment 2b varied

Figure 1.

Mean reading times across experiments.



the amount of elaboration each character received. That is, either the name- or the title-designated character was mentioned more often. When the name-designated character was elaborated, it was more accessible than the title-designated character, regardless of which character was introduced first. When the title-designated character was elaborated, the advantage for the name-designated character disappeared. However, the title-designated character was never more accessible than the name-designated character. Experiment 2b is important because it is the only time, across all experiments, that name-designated characters were not more accessible than title-designated characters. That is, when the title-designated character was mentioned more often in the text than the name-designated character, there was no difference in reinstatement times between the two characters.

Once again, the memory-based text processing view predicts the concept that shares the greatest amount of featural overlap with the incoming text will be reactivated the fastest, but this explanation can only account for part of the results. When the name-designated character was elaborated, it was reinstated faster than the title-designated character. However, elaborating on the title-designated character increased its accessibility as predicted, but it was still not reinstated faster than the name-designated character. The reason is that title-designated characters also share featural overlap with a number of semantic concepts (i.e., those concepts related to the meaning of the title), which may also be contacted and returned during the reinstatement process. This additional information confuses the reader during reinstatement, slowing down reading times.

Perhaps it is not the amount of elaboration that affects accessibility, but the type of elaboration as well. Recall that although incoming text sends a signal to both the episodic

memory trace and the semantic memory trace in parallel, an interaction between the incoming text and the memory traces can affect the rate at which information is reactivated and returned to working memory. Experiment 3 was designed to manipulate the rate of reactivation by increasing or decreasing the amount of episodic and semantic information in the text; each text contained an elaboration of either the episodic traits or the semantic traits of the title-designated character. However, once again, name-designated characters were reinstated faster than title-designated characters, regardless of the type of elaboration. One possible reason is that the same amount of text was devoted to each character. In combination with the results of Experiment 2b, this suggests that the type of elaboration may not be as important as the amount of elaboration.

Finally consider the distance between an anaphor and an antecedent. In general, the more recent a concept is, the more accessible it is (e.g., O'Brien et al., 1990). In Experiment 4, the distance between the last mention of the name-designated character or the title-designated character and the reinstatement sentence was varied. However, distance did not have a reliable effect: there were no consistent effects of distance for title- or name-designated characters. Although the memory-based text processing view would predict a distance effect because the signal reaching more recent concepts is stronger than that reaching distant concepts, the lack of an effect here may be due to the repeated name penalty. Despite a lack of a consistent distance effect, this experiment once again demonstrated that proper names tend to be more accessible in a text than titles. This is important because the same result is being replicated across different experiments and different texts.

Across all experiments, the only time that name-designated characters were not more accessible than title-designated characters was when the title-designated character was directly mentioned in the text more than the name-designated character. As explained by the memory-based text processing view, the reason that names are more accessible may be related to the type of information that gets reactivated when names and titles are read. All incoming text sends a signal out to all of memory. Any information that shares features in common with the text will be activated. Depending on the strength of that activation, the concept may or may not be returned to working memory. Because proper names lack semantic associations, only the episodic information about that name will be reactivated. Recall the example about “Jake” and “the teacher.” When a reader encounters “Jake,” information about what “Jake” has done in the text will become activated. On the other hand, titles have both an episodic memory trace and a rich semantic network, meaning that information from both sources is likely to be activated. So when “the teacher” is encountered, information about what “the teacher” has done in the text, as well as general world knowledge about what teachers do, will become activated. Because there is competing activation for titles but not for names, the reader takes longer to sort through the information, thus giving names an advantage.

Repeating the title, as in Experiment 2b, eliminated this advantage for names because the elaboration created more retrieval routes to the title in the episodic trace of the text. Therefore, when a title was encountered during reinstatement, it now had a stronger representation in the episodic trace that was able to outweigh the competing activation from semantic memory, resulting in equivalent reading times during

reinstatement.

This is consistent with research supporting the memory-based text processing view (e.g., Myers & O'Brien, 1998; O'Brien & Myers, 1999). The more featural overlap between an item in memory and the incoming text, the faster that item will be returned. Elaborating on the name- or the title-designated character by explicitly repeating it more often in the text creates more overlap with the reinstatement sentence.

This explanation is also consistent with research demonstrating that proper names are both harder to learn and recall than other types of biographical information (e.g., Cohen & Burke, 1993). For example, Cohen and Faulkner (1986) presented participants with short biographical sketches about fictitious characters. The sketches included information such as the character's name, occupation, hobbies, and certain place names. Cohen and Faulkner found that participants had more difficulty recalling the character's names than any other type of information. Cohen (1990) claimed that proper names are difficult to recall because they are meaningless and arbitrary, both of which were pointed out in the introduction. As discussed in Chapter Five, a proper name is only connected to the episodic information in the text, while an occupation is connected to all of the semantic knowledge associated with that occupation. During recall, names are less likely to be recalled because they do not receive the convergence of activation that other information does.

This same explanation can be used to explain why proper names are more susceptible to the tip-of-the-tongue (TOT) phenomenon than other classes of words (e.g., Burke, Mackay, Worthley, & Wade, 1991). For example, a person in a TOT state unable

to recall a proper name is often able to report semantic information associated with that name, such as an occupation. In a TOT, a person is unable to recall a certain word, even though there is a feeling that one knows the answer. That is, the answer is on “the tip of the tongue.” Names are difficult to recall because they do not receive the same amount of activation that other types of words receive because they are not associated with general world knowledge.

Although the findings that proper names are harder to recall than other biographical information and that they are more susceptible to TOTs than other categories of words may seem contradictory to the current findings, they actually fit nicely with the current findings that name-designated characters are more accessible than title-designated characters in text. When readers are presented with a reinstatement sentence, the words in the reinstatement sentence send a signal out to all of memory. When a name-designated character is being reinstated, that name will only make contact with the episodic information in the text. However when a title-designated character is being reinstated, the title makes contact with both the episodic information about the character, and the semantic information associated with the title. Names are therefore faster to reinstate because there is less processing that must take place. However, it is because less information is activated for proper names that they are often harder to recall than nouns.

In conclusion, the majority of work in this area has found that name-designated characters are more accessible than title-designated characters. However, much of the previous work has focused solely on the episodic memory trace. More recently, the impact of general world knowledge on discourse processing has been explored. It has become

clear that semantic information does have an effect on reading. This dissertation has explored one area where this impact is evident. Future studies will need to be designed to more directly test exactly what type of information is being reactivated when proper names and titles are encountered in a text.

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APPENDICES

Appendix A

The passages used in Experiments 1b, 2b, 3 and 4 are presented in this Appendix. Each participant only saw one version of each passage. For each elaboration in Experiments 1b, 2b, and 3, there were two versions composed of the same sentences presented in a different order; in one the title-designated character was introduced first, in the other the name-designated character was introduced first. Only the first 28 passages were used in Experiment 1b. All 40 passages were used in subsequent experiments.

*Experiment 1**Introduction*

The professor had read Christopher's paper but he didn't think it was very good. He knew it wouldn't be a pleasant meeting. Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor.

*Experiment 2**Title Elaborated*

The professor had read Christopher's paper but he didn't think it was very good. Christopher had been hoping for a good grade. He would be upset when he saw the grade. After years of teaching, the professor still didn't know how to handle conflict. He felt uncomfortable telling students that they did poorly. He wished that he could spend more time writing but he was required to teach two classes a semester. He thought teaching would get easier but it had only gotten more difficult.

Name Elaborated

Christopher had worked really hard on the final paper. He really wanted a good grade so he had scheduled an appointment to meet with the professor. The professor had a reputation for being strict. He wanted things a certain way and he didn't take no for an answer. Christopher was nervous because he needed a good grade. He had been given an academic scholarship but needed to maintain a certain grade point average. He found it to be more difficult than he had anticipated.

*Experiment 3**Semantic Elaboration*

The professor's duties consisted of teaching and research. He preferred to do research, but teaching was very time consuming. He spent a lot of time grading papers and preparing lectures. Christopher wondered what the professor thought about the paper. Christopher worked hard and had been hoping for a good grade. He would be upset when he saw the low grade.

Episodic Elaboration

Christopher needed help with the final paper so he had scheduled an appointment to meet with the professor. The professor was very intimidating. He was very tall, always wore black, and had a reputation for being rude. He was very old but no one knew exactly how old. At the last minute, Christopher wondered if he should cancel the meeting.

Background Section (Experiments 1, 2, 3)

The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. It would take a lot of thought to write a good paper.

*Experiment 4**Title Near*

Christopher had worked really hard on the paper but still needed help from the professor. Christopher had scheduled a meeting with the professor to discuss some unanswered questions about the format of the paper.

Title Distant

Christopher had worked really hard on the paper but still needed help from the professor. Christopher had scheduled a meeting with the professor to discuss some unanswered questions about the format of the paper. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. First a poet had to be selected and then a few major works had to be selected. It took a lot of thought to write a good paper.

Name Near

Christopher had worked really hard on the paper but still needed help from the professor. The professor offered to meet with Christopher to discuss some unanswered questions about the format of the paper.

Name Distant

Christopher had worked really hard on the paper but still needed help from the professor. The professor offered to meet with Christopher to discuss some unanswered questions about the format of the paper. The assignment had been to select a famous poet and analyze a few of his major works. This didn't sound that difficult but it actually required a lot of effort. Most people were not that familiar with poetry. First a poet had to be selected and then a few major works had to be selected. It took a lot of thought to write a good paper.

Reinstatement Sentence (All Experiments)

The professor was unhappy with the paper.
Christopher was unhappy with the paper.

Spill-over Sentence (Experiments 3 & 4 only)

It did not turn out as originally planned.

Closing (All Experiments)

Most students would end up doing poorly on the paper. Christopher was glad that he had time to change his paper.

Question (All Experiments)

Was the assignment to write a short play?

*Experiment 1**Introduction*

Stephanie had spilled a soda. She didn't even bother to pick it up because she didn't think anyone was watching. Stephanie didn't know that the janitor had been right around the corner watching. The janitor mopped the floor. He really liked his job but he wished people weren't so lazy.

*Experiment 2**Title Elaborated*

Stephanie had spilled a soda. She didn't even bother to pick it up because she didn't think anyone was watching. Stephanie didn't know that the janitor had been right around the corner watching. The janitor mopped the floor. He really liked his job but he wished people weren't so lazy. This was one of those days when he wished he had a different job. He was sick of being taken for granted. Nobody in the entire building appreciated all of the work that he did.

Name Elaborated

Stephanie had spilled a soda while she was at work. She didn't even bother to pick it up because she didn't think anyone was watching. She didn't know that the janitor had been standing right around the corner and was watching. The janitor quickly mopped the floor. He really liked his job but he wished people weren't so lazy. Stephanie didn't even care about the spilled soda and she soon forgot about it. She figured it wasn't her job to be cleaning the floors anyway.

*Experiment 3**Semantic Elaboration*

Stephanie had spilled a soda. She didn't even bother to pick it up because she didn't think anyone was watching. Stephanie didn't know that the janitor had been right around the corner watching. He quickly retrieved the mop and pail and went to work. The janitor began mopping the floor. He really enjoyed cleaning, no matter what the mess was.

Episodic Elaboration

Stephanie was extremely lazy. She had spilled a soda while at work but didn't pick it up because she didn't think anyone was watching. Stephanie quickly left the scene. The janitor hated lazy people. He was not lazy. He didn't stop moving from 5:00 in the morning until 11:00 at night. The janitor seemed to have an unlimited supply of energy.

Background Section (Experiments 1, 2, 3)

There was always some kind of accident in such a big office building. The building had fifty floors. Thousands of people worked there. It was one of the newest buildings in town with all of the latest gadgets and security measures. It was one of the most secure buildings around.

*Experiment 4**Title Near*

The janitor mopped up the soda that Stephanie had spilled but did not bother to clean up. Stephanie did not know that the janitor had been right around the corner watching the whole thing.

Title Distant

The janitor mopped up the soda that Stephanie had spilled but did not bother to clean up. Stephanie did not know that the janitor had been right around the corner watching the whole thing. There was always some kind of accident in such a big office building. The building was one of the largest in the city; it had fifty floors. Thousands of people worked there for a number of different companies. It was one of the newest buildings in town with all of the latest gadgets and security measures. It was one of the most secure buildings around.

Name Near

The janitor mopped up the soda that Stephanie had spilled but did not bother to clean up. The janitor watched Stephanie look around and then quickly walk away from the spill like nothing happened.

Name Distant

The janitor mopped up the soda that Stephanie had spilled but did not bother to clean up. The janitor watched Stephanie look around and then quickly walk away like nothing happened. There was always some kind of accident in such a big office building. The building was one of the largest in the city; it had fifty floors. Thousands of people worked there for a number of different companies. It was one of the newest buildings in town with all of the latest gadgets and security measures. It was one of the most secure buildings around.

Reinstatement Sentence (All Experiments)

The janitor was glad to be working there.
Stephanie was glad to be working there.

Spill-over Sentence (Experiments 3 & 4 only)

It was always nice to have job security.

Closing (All Experiments)

A lot of people were out of work and the economy was not getting any better. Any job was a good job.

Question (All Experiments)

Did Stephanie clean up the spill?

*Experiment 1**Introduction*

The barber had just finished school. He was excited to start the new job. Alexander came in to get a hair cut. He just wanted something simple. The barber was disappointed that he couldn't be more creative. Alexander would make sure the hair cut came out the way he wanted it.

*Experiment 2**Title Elaborated*

The barber had just finished school and was excited to start the new job. Alexander came in to get a hair cut. He just wanted something simple. Alexander made sure the hair cut came out the way he wanted it. The barber was disappointed that he couldn't be more creative. While he was in school, he had learned many creative hair styles. He was hoping to make a name as a creative stylist. He knew he needed to set himself apart from the competition.

Name Elaborated

The barber had just finished school and he was excited to start the new job. Alexander came in to get a hair cut. He just wanted something simple. The barber was disappointed that he couldn't be more creative. Alexander made sure the hair cut came out the way he wanted it. He had a very busy and stressful job so he wanted something easy to take care of. He also thought that a simple cut made one look more professional. He knew appearances were very important.

*Experiment 3**Semantic Elaboration*

The barber had just finished school and finally got a customer. Alexander came in to get a hair cut. He just wanted something simple. Alexander was very specific about what he wanted: something short that looked professional and was easy to maintain. The barber washed the hair and then grabbed the scissors. He knew exactly what to do. He loved cutting hair.

Episodic Elaboration

The barber had just finished school and he was excited to start the new job. Alexander was the shop's owner. He had too many customers and needed help to keep up. The barber was nervous and didn't want to make any mistakes. He cautiously approached the first customer. Alexander closely supervised everything that went on in the shop. He demanded perfection.

Background Section (Experiments 1, 2, 3)

The shop had a large window that looked out into the street. There was a steady stream of people rushing to and from work. The location was good for business because people often stopped in before or after work. The shop had a number of large mirrors for

customers to look in.

Experiment 4

Title Near

The barber had just finished school and Alexander was the first customer to come in for a hair cut. Alexander gave the barber very explicit instructions concerning how the hair should be cut.

Title Distant

The barber had just finished school and Alexander was the first customer to come in for a hair cut. Alexander gave the barber very explicit instructions concerning how the hair should be cut. It seemed that everybody that came in to the shop wanted something different. The location of the shop was good for business. The shop had a large window that looked out into the street. There was a steady stream of people rushing to and from work and the shop was hard to miss. There was always somebody who needed to get their hair cut.

Name Near

The barber had just finished school and Alexander was the first customer to come in for a hair cut. The barber listened as Alexander gave very explicit instructions concerning how the hair should be cut.

Name Distant

The barber had just finished school and Alexander was the first customer to come in for a hair cut. The barber listened as Alexander gave very explicit instructions concerning how the hair should be cut. It seemed that everybody that came in to the shop wanted something different. The location of the shop was good for business. The shop had a large window that looked out into the street. There was a steady stream of people rushing to and from work and the shop was hard to miss. There was always somebody who needed to get their hair cut.

Reinstatement Sentence (All Experiments)

The barber was happy with the hair cut.
Alexander was happy with the hair cut.

Spill-over Sentence (Experiments 3 & 4 only)

The cut would last for at least a month.

Closing (All Experiments)

It turned out to be a successful day for the barber. He knew he was going to like his job.

Question (All Experiments)

Did the barber just finish school?

*Experiment 1**Introduction*

The Kensington's needed to have their wiring redone. They had been without electricity for two days. The electrician was called in on Sunday to work. He didn't mind because he got paid double time on Sundays. The Kensington's were glad the electrician came right away. They didn't care how much it cost.

*Experiment 2**Title Elaborated*

The Kensington's needed to have their wiring redone. They had been without electricity for two days. The electrician was called in on Sunday to work. He didn't mind because he got paid double time on Sundays. It was almost Christmas and he could use the extra money. He had four kids to support. He couldn't believe how expensive toys were these days. He hoped that the job wouldn't take all day. The electrician made the Kensington's happy by coming right away. They didn't care how much it cost.

Name Elaborated

The Kensington's needed to have their wiring redone. They had been without electricity for two straight days and couldn't take it anymore. They were sick and tired of living in the dark. They couldn't wait for the problem to be fixed. They even called the electrician in on Sunday to work. He didn't mind because he got paid double time on Sundays. The electrician made the Kensington's happy by coming right away. They didn't care how much it cost. They couldn't stand not having electricity anymore.

*Experiment 3**Semantic Elaboration*

The Kensingtons needed to have the wiring redone. They had been without electricity for two days. The electrician was called in on Sunday to work. The electrician went into the basement and he looked at the wires. He pulled out some tools and fixed the problem quickly. The Kensington's were thankful for the help. They didn't care how much it cost.

Episodic Elaboration

The Kensington's were desperate. They had already called ten people but nobody would come on a Sunday. They didn't care how much it cost. The Kensington's just needed help. The electrician was called in on Sunday to work. The electrician didn't mind working on Sundays. He had four kids to support. He really needed the money to pay off Christmas bills.

Background Section (Experiments 1, 2, 3)

It was very important that the problem be fixed. The local team had finally made it to the playoffs and everybody was really excited. One more win and they were in the Superbowl. Football parties had been planned all over town. It was getting close to game time. Suddenly the lights flickered.

*Experiment 4**Title Near*

The electrician was called in on Sunday to work. The Kensington's wanted the power fixed before the football game. The Kensington's were happy the electrician was able to come right away to fix the problem.

Title Distant

The electrician was called in on Sunday to work. The Kensington's wanted the power fixed before the football game. The Kensington's were happy the electrician was able to come right away to fix the problem. It was very important that the power be fixed. The local team had finally made it to the playoffs and everybody was really excited. It had been years since the local team had made it this far. One more win and they were in the Superbowl. Football parties had been planned all over town. It was getting close to game time. Suddenly the lights flickered.

Name Near

The electrician was called in on Sunday to work. The Kensington's wanted the power fixed before the football game. The electrician made the Kensington's happy by coming right away and trying to fix the problem.

Name Distant

The electrician was called in on Sunday to work. The Kensington's wanted the power fixed before the football game. The electrician made the Kensington's happy by coming right away and trying to fix the problem. It was very important that the power be fixed. The local team had finally made it to the playoffs and everybody was really excited. It had been years since the local team had made it this far. One more win and they were in the Superbowl. Football parties had been planned all over town. It was getting close to game time. Suddenly the lights flickered.

Reinstatement Sentence (All Experiments)

The electrician cheered with happiness.
The Kensington's cheered with happiness.

Spillover Sentence

Now everybody could watch the big game.

Closing (All Experiments)

Now the Kensington's would be able to watch the big football game. They were both really big sports fans.

Question (All Experiments)

Did the Kensington's like football?

*Experiment 1**Introduction*

The mailman rushed to deliver the letters. He wanted to finish before it started to snow. The last stop on the delivery route was Elizabeth's house. She always got a lot of mail. The mailman wondered why she was so popular. He hoped to meet Elizabeth one day and find out why.

*Experiment 2**Title Elaborated*

The mailman rushed to deliver the letters. He wanted to finish before it started to snow. Elizabeth's house was the last stop on the delivery route. She always got lots of mail. The mailman wondered why she was so popular. He hoped to meet Elizabeth one day and find out why. He liked to imagine what the people on his route were like. He often made up elaborate stories about them. He thought it was a good way to pass the time. Besides, he wasn't hurting anybody.

Name Elaborated

The mailman hoped to meet Elizabeth one day. He wanted to find out why she was so popular. Elizabeth's house was the last stop on the delivery route. She always got a lot of mail. The mailman didn't realize that he was completely wrong. She really was not popular at all. She got so much mail because she was afraid to leave the house. She did all of her shopping online and through catalogs which resulted in a lot of letters and packages each day.

*Experiment 3**Semantic Elaboration*

The mailman rushed to deliver the letters. He wanted to finish before the snow. Elizabeth's house was the last stop on the delivery route. She always got lots of mail but she never seemed to be home. The house was always dark, even during the day. The mailman gathered all of Elizabeth's letters and he carefully put them in the box.

Episodic Elaboration

The mailman hoped to meet Elizabeth. Elizabeth's house was the very last stop on the route. She always sat on the porch everyday when he walked by, but she never even waved or said hi. The mailman liked to make up elaborate stories about the people on the route. The stories he made up usually involved deceit, infidelity, and crime.

Background Section (Experiments 1, 2, 3)

They were supposed to get a really bad snow storm. Some weathermen had predicted that they would get up to two feet of snow. The city would be shoveling out from the storm for days. Some people were excited for the storm but not everyone was happy about it.

*Experiment 4**Title Near*

Elizabeth's house was the last stop on the route. The mailman wanted to finish work before the snow began. Elizabeth watched as the mailman hastily delivered all of the letters and then quickly drove away.

Title Distant

Elizabeth's house was the last stop on the route. The mailman wanted to finish work before the snow began. Elizabeth watched as the mailman hastily delivered all of the letters and then quickly drove away. They were supposed to get a really bad snow storm. Some weathermen had predicted that they would get up to two feet of snow. The city would be shoveling out from the storm for days. Some people were excited for the storm but not everyone was happy about it. The city had gotten more than its fair share of snow already this winter.

Name Near

Elizabeth's house was the last stop on the delivery route. The mailman wanted to finish work before the snow began. The mailman stopped at Elizabeth's house and hastily delivered the letters before quickly driving away.

Name Distant

Elizabeth's house was the last stop on the delivery route. The mailman wanted to finish work before the snow began. The mailman stopped at Elizabeth's house and hastily delivered the letters before quickly driving away. They were supposed to get a really bad snow storm. Some weathermen had predicted that they would get up to two feet of snow. The city would be shoveling out from the storm for days. Some people were excited for the storm but not everyone was happy about it. The city had gotten more than its fair share of snow already this winter.

Reinstatement Sentence (All Experiments)

The mailman hoped it wouldn't snow a lot.
Elizabeth hoped it wouldn't snow a lot.

Spill-over Sentence (Experiments 3 & 4)

The snow created hassles for everyone.

Closing (All Experiments)

Once all the mail was delivered, the mailman went home. He made it just as it began to snow.

Question (All Experiments)

Were they supposed to get a lot of snow?

*Experiment 1**Introduction*

Vanessa suddenly came inside the store. She was the prettiest girl in town. Everybody loved Vanessa. Of course, she didn't even know who the clerk was. The clerk was having a bad day at work. He had gotten tricked in to working an extra shift and he was feeling depressed.

*Experiment 2**Title Elaborated*

Suddenly, Vanessa came inside the store. Everybody loved Vanessa. She was the prettiest girl in town. The clerk tried to say hi to Vanessa but was too nervous. He became even more depressed. The clerk was having a bad day at work to begin with. He had gotten tricked in to working and he was feeling depressed. He hadn't been on a date in months. He was so shy that he usually just hid behind the counter while at work and didn't talk to anyone.

Name Elaborated

Vanessa casually walked into the store. The clerk had been feeling depressed when he heard somebody come into the store. The clerk tried to say hi but she didn't even notice that he existed. Vanessa had more important things to think about. She was on the way to an interview with the top modeling agency in town. She was by far the prettiest girl in town, and she knew it. She was really nervous so she stopped at the store to buy a drink and some gum.

*Experiment 3**Semantic Elaboration*

Suddenly, Vanessa came inside the store. She was by far the prettiest girl in the entire town. The clerk said hi to Vanessa as she paid for a pack of gum. The clerk stood behind the counter and watched the customers go in and out. He looked at the register and realized that he had to run out back to get change.

Episodic Elaboration

Vanessa casually walked into the store and looked around. She was by far the prettiest girl in town, and she knew it. The clerk had been feeling sad and depressed when he heard somebody come into the store. The clerk was upset because he had just been dumped by a girlfriend. Even Vanessa's unexpected appearance could not brighten the day.

Background Section (Experiments 1, 2, 3)

The store was a convenience store located at a crowded intersection in the middle of the city. As a result, it was always busy. People were in and out all day long. They also had the cheapest gas in town. This really helped them gain an edge over the competition.

*Experiment 4**Title Near*

The clerk was having an unusually bad day at work. Suddenly, Vanessa came inside the store and looked around. Vanessa looked at the clerk but did not bother to say hello or even smile.

Title Distant

The clerk was having an unusually bad day at work. Suddenly, Vanessa came inside the store and looked around. Vanessa looked at the clerk but did not bother to say hello or even smile. The store was a convenience store located at a crowded intersection in the middle of the city. As a result, it was always busy because of the heavy traffic. People were in and out all day long; the store was even busy in the middle of the night. They also had the cheapest gas in town. This really helped them gain an edge over the competition.

Name Near

The clerk was having an unusually bad day at work. Suddenly, Vanessa came inside the store and looked around. The clerk looked at Vanessa but did not get an hello or even a smile.

Name Distant

The clerk was having an unusually bad day at work. Suddenly, Vanessa came inside the store and looked around. The clerk looked at Vanessa but did not get an hello or even a smile. The store was a convenience store located at a crowded intersection in the middle of the city. As a result, it was always busy because of the heavy traffic. People were in and out all day long; the store was even busy in the middle of the night. They also had the cheapest gas in town. This really helped them gain an edge over the competition.

Reinstatement Sentence (All Experiments)

The clerk decided to buy a can of pepsi.
Vanessa decided to buy a can of pepsi.

Spill-over Sentence (Experiments 3 & 4 only)

The store was having a big sale on soda.

Closing (All Experiments)

Vanessa's appearance brightened the clerk's day. He was cheerful to all of the customers for the remainder of the day.

Question (All Experiments)

Did the clerk work at the mall?

*Experiment 1**Introduction*

The doctor had performed many surgeries throughout a long and distinguished career. She was well-known throughout all of the community. Jonathan needed by-pass surgery done. He was very nervous about it. He went to see the doctor that everybody recommended. She made Jonathan feel much better about the surgery.

*Experiment 2**Title Elaborated*

The doctor had performed many surgeries throughout a long and distinguished career. She was well-known throughout all of the community. Jonathan needed by-pass surgery. He was very nervous about it so he went to see the doctor that everybody recommended. She made Jonathan feel much better about the surgery. She had a very high success rate, partly because of a new method that she had invented. Soon, she would be famous for the invention. She was currently writing an article about the procedure for a medical journal.

Name Elaborated

The doctor had performed many surgeries throughout a long and distinguished career. She was well-known throughout all of the community. Jonathan needed to have by-pass surgery done. He was very nervous about it so he went to see the doctor that everybody recommended. She answered a lot of questions and made Jonathan feel much better about the surgery. He was really upset that he needed surgery in the first place. He exercised and tried to watch what he ate but it just wasn't enough.

*Experiment 3**Semantic Elaboration*

The doctor had performed many surgeries throughout a long and distinguished career. Jonathan needed by-pass surgery. He was very nervous about it so he went to see the doctor that everybody recommended. She had a very high success rate, partly because of an innovative new method that she had invented. Jonathan felt much better about the surgery after the consultation.

Episodic Elaboration

The doctor was well-known throughout all of the community. She was known as really caring, warm, and honest. Jonathan needed help right away. He was fifty pounds overweight, never exercised, and had high cholesterol and high blood pressure. He was very nervous about what the doctor would say. She answered a lot of questions and made Jonathan feel much better.

Background Section (Experiments 1, 2, 3)

Many people had high cholesterol, mostly because they struggled with their weight and their eating habits. It was hard work to live a healthy lifestyle and many people were not up for it. One had to eat right and exercise. It helped to have supportive friends and

family.

Experiment 4

Title Near

The doctor had performed many surgeries throughout a long and distinguished career. Jonathan needed by-pass surgery but was nervous about it. Jonathan's appointment with the doctor went really well and relieved a lot of anxiety.

Title Distant

The doctor had performed many surgeries throughout a long and distinguished career. Jonathan needed by-pass surgery but was nervous about it. Jonathan's appointment with the doctor went really well and relieved a lot of anxiety. Although the surgery was very complicated, it was very common and had a very high success rate. The important thing was to make sure that the patients took care of themselves after they left the hospital. Often they went back to their old habits and essentially erased the benefits of the surgery. It was very important to eat well and exercise on a regular basis.

Name Near

The doctor had performed many surgeries throughout a long career. Jonathan needed by-pass surgery but was nervous about it. After the doctor explained the surgery, Jonathan felt much better and was not so nervous about it.

Name Distant

The doctor had performed many surgeries throughout a long career. Jonathan needed by-pass surgery but was nervous about it. After the doctor explained the surgery, Jonathan felt much better and was not so nervous about it. Although the surgery was very complicated, it was very common and had a very high success rate. The important thing was to make sure that the patients took care of themselves after they left the hospital. Often they went back to their old habits and essentially erased the benefits of the surgery. It was very important to eat well and exercise on a regular basis.

Reinstatement Sentence (All Experiments)

The doctor talked about staying in shape.
Jonathan talked about staying in shape.

Spill-over Sentence (Experiments 3 & 4 only)

The first step was making a commitment.

Closing (All Experiments)

Jonathan took better care of himself after the operation. He started exercising and eating right to lower his cholesterol.

Question (All Experiments)

Did Jonathan have knee surgery?

*Experiment 1**Introduction*

Caroline came in because she needed a loan in order to build an addition onto the house. The banker helped Caroline fill out the paperwork. He said she would be easily approved for the loan. The banker worked hard all day long. He saw a steady stream of customers throughout the day.

*Experiment 2**Title Elaborated*

Caroline came in because she needed a loan in order to build an addition onto the house. The banker helped Caroline fill out the paperwork. He said she would be easily approved for the loan. The banker worked hard all day long. He began to wish that he had a more exciting job. He saw a steady stream of customers throughout the day. He was getting sick of filling out paperwork all day. He saw a lot of people each day but most transactions were not exciting.

Name Elaborated

Caroline came in because she needed a loan in order to build an addition onto the house. She wanted to build a garage and add two bedrooms. The banker helped Caroline fill out the paperwork that was required for the loan. He said she would be easily approved for the loan. She was relieved to hear that. She was grateful she had such a nice banker, he really made the process easy. It wasn't as stressful as some people made it out to be.

*Experiment 3**Semantic Elaboration*

Caroline came in because she needed a loan in order to build an addition onto the house. With four kids, the house had become much too small and crowded. The banker helped Caroline fill out the paperwork. He helped to qualify customers for loans. He said she would be approved for the loan. The banker worked hard all day long.

Episodic Elaboration

Caroline came in because she needed a loan in order to build an addition onto the house. The banker helped Caroline fill out the paperwork. She had lots of questions about the procedure he needed to answer. The banker began thinking about remodeling. Now that he was no longer a bachelor, the house was not big enough for the family.

Background Section (Experiments 1, 2, 3)

People came in for loans for a number of different reasons. Most people wanted to buy a new house or a new car. Some people wanted to get rid of their credit card debt while others needed to pay for college. Each day it was a different story.

*Experiment 4**Title Near*

The banker worked hard all day. Caroline came in for a loan in order to build an addition onto the house. Caroline listened to the banker explain all of the paper work and the loan process.

Title Distant

The banker worked hard all day. Caroline came in for a loan in order to build an addition onto the house. Caroline listened to the banker explain all of the paper work and the loan process. People came in for loans for a number of different reasons. Most people wanted to buy a new house or a new car. Some people wanted to get rid of their credit card debt while others needed to pay for college. Each day it was a different story. Most people who came in were approved but those with really poor credit were often turned down.

Name Near

The banker worked hard all day. Caroline came in for a loan in order to build an addition onto the house. The banker talked to Caroline and explained all the paper work and the loan process.

Name Distant

The banker worked hard all day. Caroline came in for a loan in order to build an addition onto the house. The banker talked to Caroline and explained all the paper work and the loan process. People came in for loans for a number of different reasons. Most people wanted to buy a new house or a new car. Some people wanted to get rid of their credit card debt while others needed to pay for college. Each day it was a different story. Most people who came in were approved but those with really poor credit were often turned down.

Reinstatement Sentence (All Experiments)

The banker felt confident about the loan.
Caroline felt confident about the loan.

Spill-over Sentence (Experiments 3 & 4 only)

It should not take long for an answer.

Closing (All Experiments)

Caroline began to make plans for the addition while she waited for the bank to officially approve her loan.

Question (All Experiments)

Was Caroline buying a new house?

*Experiment 1**Introduction*

The driver pulled into the rest stop. He had been on the road for ten hours and needed a break. Meredith was at the rest stop because she had a flat tire. The driver offered to help Meredith fix the flat. She was thankful for the help. He seemed really nice.

*Experiment 2**Title Elaborated*

The driver pulled into the rest stop. He had been on the road for ten hours and needed a break. Meredith was at the rest stop because she had a flat tire. The driver offered to help Meredith fix the flat. She was thankful for the help. He easily changed the tire. He didn't mind helping other people in trouble. He knew what it was like to be stranded and not have any help. He made it a point to help other travelers whenever he could.

Name Elaborated

The driver pulled into the rest stop. He had been on the road for ten hours and needed a break. Meredith was at the rest stop because she had a flat tire. The driver offered to help Meredith fix the flat. He easily changed the tire. She was thankful for the help. She didn't know how to change a tire. She knew she should learn more about cars but it never seemed necessary. She swore to at least learn how to change a flat tire.

*Experiment 3**Semantic Elaboration*

The driver pulled into the rest stop. He was hauling a shipment cross-country and needed a break. Meredith was at the rest stop because she had gotten a flat tire while driving to her parents' house. The driver offered to help Meredith. She was thankful that somebody could help with the tire. He hoped to still make the delivery on time..

Episodic Elaboration

The driver pulled into the rest stop. Meredith was at the rest stop because she had gotten a flat tire while driving to her parents' house. The driver offered to help Meredith. She was thankful he offered to help with the tire. He was always helping people, whether it be carrying groceries for the elderly or shoveling a neighbor's driveway.

Background Section (Experiments 1, 2, 3)

A few other people stopped to offer their assistance. There were a lot of people on the road because it was a holiday weekend. Many people took the two hour trip North to go to the mountains. They had gotten lots of snow lately so the skiing conditions would be perfect.

*Experiment 4**Title Near*

Meredith was at the rest stop because of a flat tire. The driver pulled into the rest stop and

saw that Meredith needed help. The driver helped fix the flat; it only took a few minutes.

Title Distant

Meredith was at the rest stop because of a flat tire. The driver pulled into the rest stop and saw that Meredith needed help. The driver helped fix the flat; it only took a few minutes. A few other people stopped to offer their assistance. There were a lot of people on the road because it was a holiday weekend. Many people took the two hour trip North to go to the mountains. They had gotten lots of snow so the skiing conditions would be perfect. The weather was also supposed to be really nice. There were no storms in the forecast.

Name Near

Meredith was at the rest stop because of a flat tire. The driver pulled into the rest stop for a break. The driver helped Meredith change the flat; it only took a few minutes.

Name Distant

Meredith was at the rest stop because of a flat tire. The driver pulled into the rest stop for a break. The driver helped Meredith change the flat; it only took a few minutes. A few other people stopped to offer their assistance. There were a lot of people on the road because it was a holiday weekend. Many people took the two hour trip North to go to the mountains. They had gotten lots of snow so the skiing conditions would be perfect. The weather was also supposed to be really nice. There were no storms in the forecast.

Reinstatement Sentence (All Experiments)

The driver also checked the other tires.
Meredith also checked the other tires.

Spill-over Sentence (Experiments 3 & 4 only)

It was better to find any problems now.

Closing (All Experiments)

After a break, both Meredith and the driver were back on the road. They needed to reach their destinations quickly.

Question (All Experiments)

Did Meredith have a flat tire?

*Experiment 1**Introduction*

Nathaniel came into the diner almost every night. He had become good friends with the waitress. She liked Nathaniel because he was polite and always left a really good tip. The waitress was working hard at the diner. She worked the evening shift because it was always so busy.

*Experiment 2**Title Elaborated*

Nathaniel came into the diner almost every night. He had become good friends with the waitress. The waitress worked hard at the diner. She worked the evening shift because it was always so busy. She liked Nathaniel because he was polite and always left a really good tip. She worked at the diner six nights a week. She had three kids and wasn't receiving any child support from their father. She did the best she could but it was still hard to make ends meet.

Name Elaborated

Nathaniel came into the diner almost every night. He had become good friends with the waitress. The waitress worked hard and appreciated the nice customer's that she occasionally got to wait on. She liked Nathaniel because he was polite and always left a really good tip. He knew how hard of a job it was. While he was in college, he worked as a waiter to help pay for school. He always left a big tip no matter what type of restaurant it was.

*Experiment 3**Semantic Elaboration*

Nathaniel came into the diner almost every night because it was right next to work. He had become good friends with the waitress. She knew Nathaniel's order by heart; he never had to ask for anything. The waitress worked hard serving meals at the diner. She worked the evening shift because the tips were better than during the morning shift.

Episodic Elaboration

Nathaniel was helping the waitress with the papers. The waitress thought about everything that needed to be done. She was a sophomore in college and final exams were approaching. She had to study and write two big papers. He was an English major so he offered to proofread the papers for spelling and punctuation errors. Nathaniel brought some books into the diner.

Background Section (Experiments 1, 2, 3)

The diner was located next to a number of office buildings. Business men and women were in and out all day. It was a good place for a quick meal but not the kind of place to take a potential client. Still, it had big windows that overlooked the river.

*Experiment 4**Title Near*

Nathaniel came into the diner almost every night. The waitress had become good friends with Nathaniel over the past few months. The waitress practically lived at the diner, working six nights a week.

Title Distant

Nathaniel came into the diner almost every night. The waitress had become good friends with Nathaniel over the past few months. The waitress practically lived at the diner, working six nights a week. The diner was located next to a number of busy office buildings downtown. Business men and women were in and out all day. There weren't many restaurants in the area so that really helped business. It was a good place for a quick meal but not the kind of place to take a potential client. Still, it had big windows that overlooked the river.

Name Near

Nathaniel came into the diner almost every night. The waitress practically lived at the diner, working six nights a week. The waitress and Nathaniel had become really good friends over the past few months.

Name Distant

Nathaniel came into the diner almost every night. The waitress practically lived at the diner, working six nights a week. The waitress and Nathaniel had become really good friends over the past few months. The diner was located next to a number of busy office buildings downtown. Business men and women were in and out all day. There weren't many restaurants in the area so that really helped business. It was a good place for a quick meal but not the kind of place to take a potential client. Still, it had big windows that overlooked the river.

Reinstatement Sentence (All Experiments)

The waitress looked out the large window.
Nathaniel looked out the large window.

Spill-over Sentence (Experiments 3 & 4 only)

The diner's view was surprisingly nice.

Closing (All Experiments)

The bright full moon was reflecting off of the river. It was a very nice scene to look at.

Question (All Experiments)

Did the waitress like Nathaniel?

*Experiment 1**Introduction*

The bellman carried the bags to the tenth floor. He was hoping for a big tip because there were so many bags. Cassandra was staying at the hotel for three weeks. She always brought an entire wardrobe along whenever she traveled. Cassandra gave the bellman fifty dollars. He was quite pleased.

*Experiment 2**Title Elaborated*

The bellman carried the bags to the tenth floor. He was hoping for a big tip because there were so many bags. Cassandra was staying at the hotel for three weeks. She always brought an entire wardrobe along whenever she traveled. Cassandra gave the bellman fifty dollars. He was quite pleased with the tip. He still couldn't believe how much money he made at the hotel. Pretty soon, he would be able to buy the motorcycle that he had been wanting to buy for years.

Name Elaborated

The bellman carried all of the bags to the tenth floor. He was hoping for a big tip because there were so many bags. Cassandra was planning on staying at the hotel for at least three weeks. She always brought an entire wardrobe along whenever and wherever she traveled. She gave the bellman fifty dollars. He was quite pleased with the tip. Cassandra may not always be nice to everyone, but she was never cheap. She wanted everyone to know that she was rich.

*Experiment 3**Semantic Elaboration*

The bellman carried the bags to the tenth floor. He was hoping for a big tip. He worked for an exclusive hotel so the customers usually tipped pretty well. Cassandra was staying at the hotel for an extended vacation of three weeks. She always brought an entire wardrobe along whenever she traveled. Cassandra gave the bellman a fifty dollar tip.

Episodic Elaboration

The bellman smiled politely. He was trying to earn money to buy a motorcycle. He was hoping to drive across country. Each day, the bellman thought of a new place to visit. Cassandra was planning on staying at the hotel for at least three weeks. She always brought an entire wardrobe along whenever and wherever she traveled. Cassandra never packed lightly.

Background Section (Experiments 1, 2, 3)

It was a very expensive hotel. Each room was at least five hundred dollars a night. Only the very rich could afford to stay there. On any given night there were a handful of movie stars, singers, and athletes staying there. They expected only the very best service.

*Experiment 4**Title Near*

Cassandra was staying at the hotel for three weeks. The bellman carried all ten of Cassandra's bags the bags to the twelfth floor. The bellman wanted a big tip because there were so many bags.

Title Distant

Cassandra was staying at the hotel for three weeks. The bellman carried all ten of Cassandra's bags the bags to the twelfth floor. The bellman wanted a big tip because there were so many bags.

Many people stayed at the hotel for long periods of time. It was a very expensive hotel. Each room was at least five hundred dollars a night. Only the very rich could afford to stay there. On any given night there were a handful of movie stars, singers, and athletes staying there. They liked the hotel because of the great service and the privacy it provided.

Name Near

Cassandra was staying at the hotel for three weeks. The bellman knew that meant a lot of luggage. The bellman wanted a big tip for carrying Cassandra's bags all the way up to the twelfth floor.

Name Distant

Cassandra was staying at the hotel for three weeks. The bellman knew that meant a lot of luggage. The bellman wanted a big tip for carrying Cassandra's bags all the way up to the twelfth floor. Many people stayed at the hotel for long periods of time. It was a very expensive hotel. Each room was at least five hundred dollars a night. Only the very rich could afford to stay there. On any given night there were a handful of movie stars, singers, and athletes staying there. They liked the hotel because of the great service and the privacy it provided.

Reinstatement Sentence (All Experiments)

The bellman thought it was a great hotel.
Cassandra thought it was a great hotel.

Spill-over Sentence (Experiments 3 & 4 only)

It had every amenity a guest could want.

Closing (All Experiments)

Cassandra knew she would have a good time while staying at the hotel. She was anxious to unpack and relax.

Question (All Experiments)

Was the hotel expensive?

*Experiment 1**Introduction*

Jennifer was worried about disturbing the captain. She didn't want to upset anyone on the first day of work. The captain stood at the helm of the ship. He loved to look at the open sea. Jennifer was now the new assistant. She hoped he would be easy to work for.

*Experiment 2**Title Elaborated*

Jennifer, the new assistant, was worried about disturbing the captain. She asked if he needed anything. The captain stood at the helm of the ship looking out at the open sea. He waved Jennifer away. She quickly left the deck. He didn't like anyone to disturb the time he spent alone on the deck. It was so relaxing to gaze at the sea. He easily forgot all of the day's problems when surrounded by the sea. Unfortunately, he never wanted to return to work afterwards.

Name Elaborated

Jennifer, the new assistant, was worried about disturbing the captain. She did not want to upset anyone on the first day of work. The captain stood at the helm of the ship as Jennifer anxiously watched. She asked if he needed anything. He said no and she quickly left the deck. She wanted to do the job right but she didn't want to be thought of as a nuisance. She hoped to get the hang of how things worked on the ship after a few days.

*Experiment 3**Semantic Elaboration*

Jennifer, the new assistant, was worried about disturbing the captain. The captain stood at the helm of the ship. He thought about all of the responsibilities involved with commanding a large ship. He was constantly checking all of the ship's controls. Jennifer decided she should get to know the ship. She still wasn't sure what the job as an assistant entailed.

Episodic Elaboration

Jennifer, the new assistant, was worried about being a nuisance. She wanted to do the job right but she didn't want to be always in the way. The captain stood on the deck as Jennifer watched anxiously. He was busy thinking about home. The captain's wife had just been diagnosed with cancer. He still wasn't sure how bad the situation was.

Background Section (Experiments 1, 2, 3)

The ship was just starting out on a one month cruise around Europe. They would stop at a number of different countries and see many different sites. This was the most popular cruise that the ship offered. The passengers were excited to be onboard. They were busy exploring the ship.

*Experiment 4**Title Near*

The captain stood at the helm of the ship while Jennifer anxiously watched. Jennifer, the new assistant, had an important question, but the captain didn't like to be disturbed while out on the deck.

Title Distant

The captain stood at the helm of the ship while Jennifer anxiously watched. Jennifer, the new assistant, had an important question, but the captain didn't like to be disturbed while out on the deck. The ship had just pulled out into the open sea. It was just starting out on a one month cruise around Europe. They would stop at a number of different countries and see many different sites. This was the most popular cruise that the ship offered. The passengers were excited to be onboard. They were busy exploring the ship and all it had to offer.

Name Near

The captain stood at the helm of the ship while Jennifer anxiously watched. The captain hated to be disturbed while on the deck but Jennifer, the new assistant, had an important question that couldn't wait.

Name Distant

The captain stood at the helm of the ship while Jennifer anxiously watched. The captain hated to be disturbed while on the deck but Jennifer, the new assistant, had an important question that couldn't wait. The ship had just pulled out into the open sea. It was just starting out on a one month cruise around Europe. They would stop at a number of different countries and see many different sites. This was the most popular cruise that the ship offered. The passengers were excited to be onboard. They were busy exploring the ship and all it had to offer.

Reinstatement Sentence (All Experiments)

The captain silently watched everything.
Jennifer silently watched everything.

Spill-over Sentence (Experiments 3 & 4 only)

There was never a dull moment on board.

Closing (All Experiments)

It turned out to be a very successful cruise. Everybody had a good time while on board the ship.

Question (All Experiments)

Was the ship going to the Caribbean?

*Experiment 1**Introduction*

The senator was very busy this session. He had just been elected and was still trying to learn the ropes. Charlotte had been the senator's campaign manager and was now the assistant. He relied upon Charlotte for some smart advice. She had already done this before so she knew what to do.

*Experiment 2**Title Elaborated*

The senator was very busy this session. He had just been elected and he was still trying to learn the ropes. Charlotte had been the senator's campaign manager and was now the assistant. He relied heavily upon Charlotte for some smart advice about a number of different issues. She had already done this before so she knew what to do. He was still very new and didn't understand how things worked yet. On top of everything, he still wasn't sure who he could trust.

Name Elaborated

The senator was very busy this session. He had just been elected and was still trying to learn the ropes. Charlotte had been the senator's campaign manager and she was now the assistant. He relied upon Charlotte for smart advice about a number of different issues. She knew the right way to talk and act in Washington. She had already done this before so she knew what to do. She had an uncanny ability to know what issues would be popular. She was the best assistant around.

*Experiment 3**Semantic Elaboration*

The senator was very busy this session. He had just been elected to congress and was still trying to learn the ins and outs of Washington. Charlotte had been the senator's campaign manager and was now the assistant. He valued Charlotte's advice. She had already done this before so she knew the right way to vote and the right way to act.

Episodic Elaboration

The senator desperately needed a place to live. He couldn't afford to stay in a hotel any longer but rent in the area was extremely high. He had been searching unsuccessfully for weeks. Charlotte was the top assistant. She helped the senator with problems but she didn't know what to do about the housing situation. Charlotte didn't know of any affordable apartments.

Background Section (Experiments 1, 2, 3)

It took a while to learn how things worked in Washington. There was a lot of bargaining as well as lying that went happened behind the scenes. People would do whatever it took to gain power and an advantage over their enemy. Most people either loved it or hated it.

*Experiment 4**Title Near*

Charlotte had been the senator's campaign manager and was now the assistant. Charlotte now had a lot of important responsibilities, including planning the senator's schedule and giving advice about a number of different issues.

Title Distant

Charlotte had been the senator's campaign manager and was now the assistant. Charlotte now had a lot of important responsibilities, including planning the senator's schedule and giving advice about a number of different issues. It was always nice to have help because it took a while to learn how things worked in Washington. There was a lot of bargaining as well as lying that happened behind the scenes. People would do whatever it took to gain power and an advantage over their enemy, no matter who got hurt in the process. Most people either loved it or hated it.

Name Near

Charlotte had been the senator's campaign manager and was now the assistant. The senator was new in Washington and needed help learning how things were run. Charlotte helped by planning a full schedule and giving advice.

Name Distant

Charlotte had been the senator's campaign manager and was now the assistant. The senator was new in Washington and needed help learning how things were run. Charlotte helped by planning a full schedule and giving advice. It was always nice to have help because it took a while to learn how things worked in Washington. There was a lot of bargaining as well as lying that went happened behind the scenes. People would do whatever it took to gain power and an advantage over their enemy, no matter who got hurt in the process. Most people either loved it or hated it.

Reinstatement Sentence (All Experiments)

The senator immediately loved it there.

Charlotte immediately loved it there.

Spill-over Sentence (Experiments 3 & 4 only)

There was not any other place like it.

Closing (All Experiments)

The senator and Charlotte worked well together as a team. They managed to accomplish a lot while in office.

Question (All Experiments)

Was the senator new?

*Experiment 1**Introduction*

Benjamin had paid a lot of money to go to the concert. He had wanted to see the singer for months. The singer stood in front of the crowd and waved. She always sold out all of the concerts wherever she went. Benjamin couldn't believe he was lucky enough to get tickets.

*Experiment 2**Title Elaborated*

Benjamin was in the crowd. He couldn't believe he was lucky enough to get tickets. The singer stood in front of the crowd and waved. She always sold out all of the concerts wherever she went. Benjamin thought the singer gave one of the greatest concerts. She was full of energy and ran around the stage for over two hours. She loved to perform in front of an audience. Although she hated living on a bus, she thought touring was the best part of being an entertainer.

Name Elaborated

Benjamin had paid a lot of money to go to the concert. He had wanted to see the singer for months. The singer stood in front of the crowd and waved. She always sold out all of the concerts wherever she went. Benjamin couldn't believe he was lucky enough to get tickets. He had stood in line for six hours to get tickets. He definitely thought it was worth it. He had never seen such a good show before. He couldn't believe how many people were there

*Experiment 3**Semantic Elaboration*

Benjamin was one of the many people at the show. He could not believe he was lucky enough to get tickets. The singer stood in front of the crowd and waved at the audience. She always sold out all of the concerts on the tour. Benjamin thought the singer gave one of the greatest concerts ever. She had an incredible voice.

Episodic Elaboration

Benjamin had paid a lot of money to go to the concert. He had wanted to see the singer for months. The singer had been in the news a lot lately. She had been romantically linked with another high-profile artist. She denied it but there were some convincing photos in the papers. Benjamin followed the headlines closely. He loved gossip.

Background Section (Experiments 1, 2, 3)

The show was being held at a brand new stadium. It seated over twenty thousand people. Most important, none of the seats had an obstructed view like in the old stadium. The city had spent a lot of money to build the stadium and the citizens thought it was worth the money.

*Experiment 4**Title Near*

The singer stood in front of the crowd and waved to the fans. Benjamin was in the crowd at the brand new stadium. Benjamin thought the singer gave a great concert; performing for over two hours.

Title Distant

The singer stood in front of the crowd and waved to the fans. Benjamin was in the crowd at the brand new stadium. Benjamin thought the singer gave a great concert; performing for over two hours. The show was being held at a brand new stadium. It seated over twenty thousand people. Most important, none of the seats had an obstructed view like the seats in the old stadium. The city wanted to provide more events for its citizens to attend. It had spent a lot of money to build the stadium and the citizens thought it was worth the money.

Name Near

The singer stood in front of the crowd and waved. Benjamin was at the show in the brand new stadium. The singer's performance was one of the best Benjamin had seen. The concert lasted two hours.

Name Distant

The singer stood in front of the crowd and waved. Benjamin was at the show in the brand new stadium. The singer's performance was one of the best Benjamin had seen. The concert lasted two hours. The show was being held at a brand new stadium. It seated over twenty thousand people. Most important, none of the seats had an obstructed view like the seats in the old stadium. The city wanted to provide more events for its citizens to attend. It had spent a lot of money to build the stadium and the citizens thought it was worth the money.

Reinstatement Sentence (All Experiments)

The singer thought the stadium was great.
Benjamin thought the stadium was great.

Spill-over Sentence (Experiments 3 & 4 only)

Everybody had a great view of the stage.

Closing (All Experiments)

After the concert, Benjamin went out with some of his friends. They couldn't stop talking about how good the concert was.

Question (All Experiments)

Did the stadium cost a lot of money?

*Experiment 1**Introduction*

The nurse checked on each of the patients. She gave out medicine and answered questions. Rebecca was in the hospital for very minor surgery. She knew it was routine but she was still scared. The nurse talked to Rebecca and answered some questions. She was really good with the patients.

*Experiment 2**Title Elaborated*

The nurse checked on each of the patients. She gave out medicine and answered questions. Rebecca was in the hospital for very minor surgery. She knew it was routine but she was still scared. The nurse talked to Rebecca and answered some questions. She was really good with the patients. She always knew exactly what to say to make people feel better. Although it was a difficult job, she really enjoyed working. She felt like she was making a positive difference in people's lives.

Name Elaborated

The nurse stopped in as she did the rounds. She always made time for the patients. Rebecca was in the hospital for very minor surgery. There weren't many people around but she was hoping to catch the nurse. Rebecca had a lot of questions about the surgery. Luckily, she was able to get them all answered. She felt a lot better after she had all the information. She was no longer nervous about the surgery because she knew exactly what was going to happen.

*Experiment 3**Semantic Elaboration*

The nurse checked on each of the patients during rounds. She gave out medicine and checked vital signs. She was really good at listening to what the patients had to say. Rebecca was in the hospital for very minor surgery. She knew it was routine but she was still scared. Rebecca really wanted to ask the nurse some questions about the surgery.

Episodic Elaboration

The nurse was in the cafeteria chatting with friends. She had a big date the following night and needed some advice. She was very reluctant to get back to work. Rebecca wanted to ask the nurse some questions. She had skipped supper but now she was really hungry. Rebecca wondered if it was still possible to get something to eat.

Background Section (Experiments 1, 2, 3)

It was late at night and things were starting to quiet down on the floor. The visitors had gone home and the lights had been turned down. An occasional television could be heard up and down the hall. It was only ten o'clock so the night had barely just begun.

*Experiment 4**Title Near*

Rebecca was in the hospital for very minor surgery. The nurse began rounds and checked on each of the patients. Rebecca asked the nurse some questions about what to expect from the upcoming surgery.

Title Distant

Rebecca was in the hospital for very minor surgery. The nurse began rounds and checked on each of the patients. Rebecca asked the nurse some questions about what to expect from the upcoming surgery. There wasn't much activity on the floor. Most of the patients were already asleep, although some would not sleep at all. The visitors had gone home and the lights had been turned down. An occasional television could be heard up and down the hall, but for the most part, things were quiet. It was only ten o'clock so the night had barely just begun.

Name Near

Rebecca was in the hospital for very minor surgery. The nurse checked on each of the patients. The nurse stopped to answer some questions Rebecca had about what to expect from the upcoming surgery.

Name Distant

Rebecca was in the hospital for very minor surgery. The nurse checked on each of the patients. The nurse stopped to answer some questions Rebecca had about what to expect from the upcoming surgery. There wasn't much activity on the floor. Most of the patients were already asleep, although some would not sleep at all. The visitors had gone home and the lights had been turned down. An occasional television could be heard up and down the hall, but for the most part, things were quiet. It was only ten o'clock so the night had barely just begun.

Reinstatement Sentence (All Experiments)

The nurse became tired all of the sudden.
Rebecca became tired all of the sudden.

Spill-over Sentence (Experiments 3 & 4 only)

She wondered why she was suddenly tired.

Closing (All Experiments)

She decided to close her eyes for just a second. She knew she couldn't fall asleep this early at night.

Question (All Experiments)

Was it after midnight?

*Experiment 1**Introduction*

Chandler took a seat in the meeting room. He was looking forward to the day's presentation. He knew the worker would make a mistake. Chandler hated to see other people succeed. The worker shuffled a large stack of papers. He was nervous about the presentation. He hoped that everything went smoothly.

*Experiment 2**Title Elaborated*

Chandler took a seat in the meeting room. He was looking forward to the day's presentation. He knew the worker would make a mistake during the presentation. Chandler hated to see other people succeed. The worker shuffled a large stack of papers. He was nervous about the presentation that he was about to give. When nervous, he had a tendency to stutter. He hoped that wouldn't happen today. He was up for a promotion and a bad presentation could affect whether or not he got it.

Name Elaborated

Chandler took a seat at the front of the meeting room. He was looking forward to the day's presentation. He knew the worker would make at least one mistake and he wanted to be there to see it. The worker shuffled a large stack of papers. He was obviously nervous about the presentation. He hoped that everything went smoothly. Chandler hated to see other people succeed. He always wanted to be the center of attention because he knew he was the best at everything.

*Experiment 3**Semantic Elaboration*

Chandler took a seat in the meeting room. He was looking forward to the day's presentation. He knew the worker would make a mistake. Chandler hated to see other people succeed. The worker shuffled a large stack of papers. He was nervous about the presentation and couldn't stop fidgeting. He was up for a promotion and a bad presentation would be devastating.

Episodic Elaboration

Chandler took a seat in the crowded meeting room. He noticed the worker's nice suit. Chandler hated to see other people succeed. He secretly wondered how much the suit cost. The worker looked at the reflection in the window. He was wearing an expensive brand new suit that fit just right. He made sure everything looked perfect for the meeting.

Background Section (Experiments 1, 2, 3)

The purpose of the meeting was to develop strategies to attract new clients. The firm had once been the top marketing agency in town but was having trouble keeping up with the newer, younger competition. They were going to have to come up with some good ideas to stay competitive.

*Experiment 4**Title Near*

The worker nervously shuffled papers while preparing for the presentation. Chandler waited in the meeting room. Chandler hated when other people succeeded and wanted the worker would make a big mistake and mess up the presentation.

Title Distant

The worker nervously shuffled papers while preparing for the presentation. Chandler waited in the meeting room. Chandler hated when other people succeeded and wanted the worker to make a big mistake and mess up the presentation. The purpose of the meeting was to develop strategies to attract new clients. The firm had once been the top marketing agency in town but was having trouble keeping up with the newer, younger competition. They had lost a lot of really big accounts and desperately needed new clients. They were going to have to come up with some good ideas to stay competitive.

Name Near

The worker nervously shuffled papers while preparing for the presentation. Chandler waited in the meeting room. The worker was scared to make a big mistake. Chandler was hoping the presentation would be a complete failure.

Name Distant

The worker nervously shuffled papers while preparing for the presentation. Chandler waited in the meeting room. The worker was scared to make a big mistake. Chandler was hoping the presentation would be a complete failure. The purpose of the meeting was to develop strategies to attract new clients. The firm had once been the top marketing agency in town but was having trouble keeping up with the newer, younger competition. They had lost a lot of really big accounts and desperately needed new clients. They were going to have to come up with some good ideas to stay competitive.

Reinstatement Sentence (All Experiments)

The worker knew just what they should do.
Chandler knew just what they should do.

Spill-over Sentence (Experiments 3 & 4 only)

The solution was actually quite simple.

Closing (All Experiments)

The presentation went off without a hitch. The board felt they now had some good ideas to attract new business.

Question (All Experiments)

Was the firm trying to attract new customers?

*Experiment 1**Introduction*

The actor was relaxed in front of the camera. He had been doing this for decades. Bradford moved the camera silently across the stage. He needed to film all angles. He hoped they wouldn't have to reshoot anything. The actor expertly moved across the stage. He made Bradford's job quite easy.

*Experiment 2**Title Elaborated*

The actor was relaxed in front of the camera. He had been doing this for decades so he knew exactly what to do. Bradford moved the camera silently across the stage. He needed to film all angles. He hoped they wouldn't have to reshoot anything. The actor expertly moved across the stage. He made Bradford's job quite easy. He was actually in a hurry because he had a date with the make-up artist. Unfortunately, he had to keep it quiet so the press wouldn't find out.

Name Elaborated

The actor stood relaxed in front of the camera. He was not nervous as all. The actor expertly moved across the stage. He made Bradford's job quite easy. Bradford moved the camera silently across the stage. He needed to film from all different angles. He hoped they wouldn't have to reshoot anything. He had put so much work in already that he could not wait to be finished. He hoped to win an Emmy for this work. He concentrated on the work at hand.

*Experiment 3**Semantic Elaboration*

The actor was relaxed in front of the camera. He had memorized all the lines and was ready to shoot the scene. He stood where the lighting was the best. Bradford moved the camera silently across the stage. He needed to film all the angles. He hoped they wouldn't have to reshoot anything. Bradford was pleased with the actor's performance.

Episodic Elaboration

The actor had a date with the make-up artist so he was in a hurry to leave. The actor was married so he had to keep the date a secret. Bradford was disgusted with what went on behind the scenes. He was happily married and had never been unfaithful. Bradford wanted to go home. He quickly finished the remaining work.

Background Section (Experiments 1, 2, 3)

It was hard working on a soap opera. Because the show aired every day, there was a lot of work to be done in a short amount of time. Filming usually went late into the night. After an especially long day, it was finally time to finish shooting.

*Experiment 4**Title Near*

The actor was relaxed reciting dialogue as Bradford moved the camera silently across the stage. Bradford's job was made quite easy because the actor knew what to do and where to go on the stage.

Title Distant

The actor was relaxed reciting dialogue as Bradford moved the camera silently across the stage. Bradford's job was made quite easy because the actor knew what to do and where to go on the stage. Unfortunately, there was still a lot of work to be done. It was hard working on a soap opera. Because the show aired for an hour every day, there was a lot of work that had to be done in a short amount of time. Filming usually went late into the night. After an especially long day, it was finally time to finish shooting.

Name Near

The actor was relaxed reciting dialogue as Bradford moved the camera silently across the stage. The actor knew exactly what to do, making Bradford's directing job quite easy. The scene should be filmed quickly.

Name Distant

The actor was relaxed reciting dialogue as Bradford moved the camera silently across the stage. The actor knew exactly what to do, making Bradford's directing job quite easy. The scene should be filmed quickly. Unfortunately, there was still a lot of work to be done. It was hard working on a soap opera. Because the show aired for an hour every day, there was a lot of work that had to be done in a short amount of time. Filming usually went late into the night. After an especially long day, it was finally time to finish shooting.

Reinstatement Sentence (All Experiments)

The actor was happy with the day's work.
Bradford was happy with the day's work.

Spill-over Sentence (Experiments 3 & 4 only)

All the scenes ended up coming out well.

Closing (All Experiments)

The producers would decide which parts of the film they wanted to cut and which parts they wanted to keep.

Question (All Experiments)

Was the actor working on a movie?

*Experiment 1**Introduction*

Barbara sat nervously on the plane. She had never flown before and was quite anxious. She wondered why the pilot didn't hurry up and take-off. The pilot double checked all of the controls. He wanted everything ready for the flight. He told the tower that they were ready. Barbara impatiently chewed a pencil.

*Experiment 2**Title Elaborated*

Barbara sat nervously on the plane. She had never flown before and was anxious. She wondered why the pilot didn't hurry up and take-off. Barbara impatiently chewed a pencil. The pilot double checked all of the controls. He wanted everything to be ready for the flight. He never took any chances when it came to flying. He checked and double checked everything at least twice. He knew he was responsible for all of the people on board. He told the tower the plane was ready.

Name Elaborated

Barbara sat nervously on the plane. She had never flown before and was quite anxious. She wondered why the pilot didn't hurry up and take-off. She figured that something must be wrong. She thought about all of the different things that could go wrong. The pilot double checked all of the controls. He wanted everything ready for the flight. He told the tower that they were ready. Barbara impatiently chewed a pencil as she waited. She took a deep breath and looked out the window.

*Experiment 3**Semantic Elaboration*

Barbara sat nervously on the plane. She had never flown before and was anxious. She wondered why the pilot did not hurry up and take-off. Barbara impatiently chewed a pencil. The pilot double checked all of the controls. He wanted everything to be ready for the flight. He fastened the seatbelt and told the tower the plane was ready for take-off.

Episodic Elaboration

Barbara wondered what was taking the pilot so long. She nervously looked out the window. She decided to drive on the next vacation. Barbara hated not being in control. The pilot was busy rummaging through the bag. He couldn't find his wallet. He was going to have a very hard time with no money and no identification when the plane landed.

Background Section (Experiments 1, 2, 3)

Luckily, the weather was calm across the country. The sun was shining and there were only a few clouds in the sky. This meant that there were no delays at any of the airports. This also meant that there would not be a lot of turbulence. The flight proceeded without any problems.

*Experiment 4**Title Near*

Barbara sat nervously on the plane, wondering why the pilot didn't hurry up and take-off. Barbara chewed a pencil and looked out the window. The pilot double checked all of the controls and slowly took off.

Title Distant

Barbara sat nervously on the plane, wondering why the pilot didn't hurry up and take-off. Barbara chewed a pencil and looked out the window. The pilot double checked all of the controls and slowly took off. It was a good day for flying. The weather was calm across most of the country. This meant that there were not any delays at any of the airports. This also meant that there should not be much turbulence during the flight. The plane finally took off and quickly reached cruising altitude. The flight proceeded without any problems and the flight attendants began serving drinks.

Name Near

Barbara sat nervously on the plane, wondering why the pilot didn't hurry up and take-off. The pilot double checked all of the controls. Barbara impatiently chewed a pencil and looked out the window during take-off.

Name Distant

Barbara sat nervously on the plane, wondering why the pilot didn't hurry up and take-off. The pilot double checked all of the controls. Barbara impatiently chewed a pencil and looked out the window during take-off. It was a good day for flying. The weather was calm across most of the country. This meant that there were not any delays at any of the airports. This also meant that there should not be much turbulence during the flight. The plane finally took off and quickly reached cruising altitude. The flight proceeded without any problems and the flight attendants began serving drinks.

Reinstatement Sentence (All Experiments)

The pilot looked out at the puffy clouds.
Barbara looked out at the puffy clouds.

Spill-over Sentence (Experiments 3 & 4 only)

It was a strange feeling being so high.

Closing (All Experiments)

It turned out to be an enjoyable flight for everyone on board. Barbara even fell asleep on the plane.

Question (All Experiments)

Was the weather stormy?

*Experiment 1**Introduction*

The author looked out the window. She was having a temporary case of writer's block. The novel would never get finished at this rate. Lawrence brought the author some water. He was hoping to cheer things up. He knew she was having trouble writing. Lawrence didn't know what else to do.

*Experiment 2**Title Elaborated*

The author looked out the window. She was having a temporary case of writer's block. She had not written anything in over two weeks. She was really beginning to worry now. She had never had this problem before. The novel would never get finished on time at this rate. Lawrence brought the author some water. He was hoping to cheer things up. He knew she was having trouble writing. She just sat and stared out the window. Lawrence didn't know what else to do.

Name Elaborated

The author just sat and looked out the window. She was having a temporary case of writer's block. To make matters worse, the editor's deadline was quickly approaching. Lawrence brought the author a glass of water. He was hoping to cheer things up. He knew she was having trouble writing. He had never seen anything like it before. Lawrence didn't know what else to do. He wanted to help but he didn't know how. He realized the best thing to do was offer moral support.

*Experiment 3**Semantic Elaboration*

The author looked out the window. She was having a temporary case of writer's block. She had not written anything in two weeks. The novel would never get finished on time. Lawrence brought the author some water. He was hoping to cheer things up. Lawrence didn't know what else to do. He decided the best thing to do was offer moral support.

Episodic Elaboration

The author stared out the window and cried. The family cat had just died and she was really upset. She had been crying for two days already but couldn't stop. Lawrence brought the author a glass of water and some lunch. He was hoping to cheer things up but he wasn't sure what else to do. Lawrence felt completely helpless.

Background Section (Experiments 1, 2, 3)

Times like these were hard on the family. The kids spent a lot of time outside. They had a large oak tree in the backyard they liked to climb. The yard was big so there was plenty of room to run. The yard was nice to look at from the house windows.

*Experiment 4**Title Near*

The author looked out the window but couldn't think of anything to write. Lawrence cautiously asked about the book. Lawrence wanted to help the author with the book but didn't know what else to do.

Title Distant

The author looked out the window but couldn't think of anything to write. Lawrence cautiously asked about the book. Lawrence wanted to help the author with the book but didn't know what else to do. The novel had to be finished in a few short weeks. The editor was calling the house almost every day to see how much progress was being made. He had already started a big advertising campaign to promote the book. He thought it was going to make millions. There was no way that the deadline could be pushed back. It was a stressful time.

Name Near

The author looked out the window but couldn't think of anything to write. Lawrence brought the author some water and asked about the book. Lawrence was trying to help but didn't know what else to do.

Name Distant

The author looked out the window but couldn't think of anything to write. Lawrence brought the author some water and asked about the book. Lawrence was trying to help but didn't know what else to do. The novel had to be finished in a few short weeks. The editor was calling the house almost every day to see how much progress was being made. He had already started a big advertising campaign to promote the book. He thought it was going to make millions. There was no way that the deadline could be pushed back. It was a stressful time.

Reinstatement Sentence (All Experiments)

The author finally came up with an idea.
Lawrence finally came up with an idea.

Spill-over Sentence (Experiments 3 & 4 only)

Everyone was relieved but still nervous.

Closing (All Experiments)

Although it was a difficult time for everybody, the family came together and managed to pull through.

Question (All Experiments)

Did the author have a big yard?

*Experiment 1**Introduction*

Franklin didn't really care where he threw the toys. The mother picked up the toys on the floor. She didn't know what to do with Franklin. He was five years old but still didn't listen to the mother. She wanted to take a nap but there was too much work to do.

*Experiment 2**Title Elaborated*

The house was a mess because Franklin didn't care where he threw the toys. He was five years old but still didn't listen to the mother. She didn't know what to do anymore. She was quickly losing control and she knew it would only get worse as Franklin got older. The mother picked up the toys on the floor. She wanted to take a nap but there was too much work to do. She had to start preparing supper and she still had laundry to do.

Name Elaborated

Franklin always seemed to create a mess wherever he went. He would play with a toy for a few minutes and then find something else to do. He just ran around the house and didn't listen to anyone. He knew he wouldn't be punished. The mother didn't even try to punish Franklin. She did not know what to do. He was five years old but still didn't listen to the mother. She was quickly losing control over the situation but didn't know what else to do.

*Experiment 3**Semantic Elaboration*

Franklin was a handful. He was five years old but still didn't listen to the mother. The house was a mess because Franklin didn't care where he threw the toys. The mother picked up the toys on the floor. She had to start preparing supper and there was still laundry to do. She never thought raising children would be so difficult.

Episodic Elaboration

Franklin was one reason for the bills. He was always asking the mother for something new. Franklin played with toys for a few days before he asked for something new. The mother fantasized about winning the lottery. She loved to spend money on jewelry and clothes and was already deep in credit card debt. She couldn't help being so materialistic.

Background Section (Experiments 1, 2, 3)

On top of everything, the house was always messy. Nothing was ever where it was supposed to be. There was a never ending pile of laundry that needed to be done, dishes that were always dirty, and meals that needed to be cooked. It was not fun staying home all day.

*Experiment 4**Title Near*

Franklin didn't pick up any toys. The mother was constantly cleaning the house, but it was

always dirty; Franklin managed to make a mess everywhere. The mother was quickly becoming frustrated with staying home all day.

Title Distant

Franklin didn't pick up any toys. The mother was constantly cleaning the house, but it was always dirty; Franklin managed to make a mess everywhere. The mother was quickly becoming frustrated with staying home all day. The days became very long when there were no other adults to talk to. On top of everything, the house was always messy. Nothing was ever where it was supposed to be. There was a never ending pile of laundry that needed to be done, dishes that were always dirty, and meals that needed to be cooked. It was not fun staying home all day.

Name Near

Franklin didn't pick up any toys. The mother was constantly cleaning the house and was quickly becoming frustrated. The mother didn't understand how Franklin managed to make a mess in every room of the house.

Name Distant

Franklin didn't pick up any toys. The mother was constantly cleaning the house and was quickly becoming frustrated. The mother didn't understand how Franklin managed to make a mess in every room of the house. The days became very long when there were no other adults to talk to. On top of everything, the house was always messy. Nothing was ever where it was supposed to be. There was a never ending pile of laundry that needed to be done, dishes that were always dirty, and meals that needed to be cooked. It was not fun staying home all day.

Reinstatement Sentence (All Experiments)

The mother picked toys up from the floor.
Franklin picked toys up from the floor.

Spill-over Sentence (Experiments 3 & 4 only)

The toys barely all fit into the toy box.

Closing (All Experiments)

At the end of the day, the mother was finally able to take a nap when her husband came home from work.

Question (All Experiments)

Was the house always messy?

*Experiment 1**Introduction*

The coach yelled at the players. He couldn't believe they were playing so badly. He didn't want to lose. Michael was the star of the team but he wasn't playing well. He had hurt an ankle during practice and it was still swollen. The coach hadn't realized how much they needed Michael.

*Experiment 2**Title Elaborated*

The coach yelled at the players. He couldn't believe they were playing so badly. He didn't want to lose but he didn't seem to be having any effect on the players. At first he tried motivating them then he tried shouting directions, but nothing helped. The more he yelled, the worse they did. Michael was the star of the team but he wasn't playing well. He had hurt an ankle and it was still swollen. The coach hadn't realized how much they needed Michael.

Name Elaborated

The coach was upset with the team's poor performance. He couldn't believe they were playing so badly. He didn't want to lose. Michael was the star of the team but he wasn't playing well. He had hurt an ankle during practice and it was still swollen. He couldn't run as fast as he normally did up and down the court because of the injury. The coach hadn't realized how much they needed Michael. He wasn't just the best player, he was the team's leader.

*Experiment 3**Semantic Elaboration*

The coach yelled at the players. At first he tried motivating them, then he tried shouting directions, but nothing helped. Michael was the star of the team but he wasn't playing as well as usual. He had hurt an ankle and now had difficulty running because it was still swollen. The coach had not realized how much they needed Michael.

Episodic Elaboration

The coach was a very small man. He was barely five feet tall, very skinny, and had a high pitched voice. He did not look intimidating, but that did not matter. Michael was the star of the team but he wasn't playing well. He was scared to death of the coach. Michael worried about what would happen after the game.

Background Section (Experiments 1, 2, 3)

This was the biggest game of the season. Only the winner would advance to the playoffs. The school had been the state champions for the past two years and was expected to win again. There would be a lot of disappointed people if they did not win this year.

*Experiment 4**Title Near*

The coach yelled at the players. Michael was the star of the team but wasn't playing well. Michael had hurt an ankle during practice. The coach really needed the other players to step up and contribute.

Title Distant

The coach yelled at the players. Michael was the star of the team but wasn't playing well. Michael had hurt an ankle during practice. The coach really needed the other players to step up and contribute. This was the biggest game of the season and the score was really close. Both teams took turns holding the lead throughout the game. Only the winner would advance to the playoffs. The school had been the state champions for the past two years and was expected to win again. There would be a lot of disappointed people if they did not win this year.

Name Near

The coach yelled at the players. Michael was the star of the team but wasn't playing well. The coach needed the other players contribute because Michael had hurt an ankle and was not running well.

Name Distant

The coach yelled at the players. Michael was the star of the team but wasn't playing well. The coach needed the other players contribute because Michael had hurt an ankle and was not running well. This was the biggest game of the season and the score was really close. Both teams took turns holding the lead throughout the game. Only the winner would advance to the playoffs. The school had been the state champions for the past two years and was expected to win again. There would be a lot of disappointed people if they did not win this year.

Reinstatement Sentence (All Experiments)

The coach hoped they would win the game.
Michael hoped they would win the game.

Spill-over Sentence (Experiments 3 & 4 only)

It was so important to so many people.

Closing (All Experiments)

He couldn't stand to think that they might lose. All he could do now was hope for a miracle.

Question (All Experiments)

Was Michael playing well?

*Experiment 1**Introduction*

Katherine had just moved into an apartment and discovered the faucet didn't work. She couldn't do any cleaning without water so she called the plumber right away. The plumber was called to the apartment building. He had to fix a broken faucet. He told Katherine it would be easy to fix.

*Experiment 2**Title Elaborated*

Katherine had just moved into an apartment and discovered the faucet didn't work. She couldn't do any cleaning without water so she called the plumber right away. The plumber was called to the apartment building. He had to fix a broken faucet. He was glad it would be an easy job. He had had a long day and was anxious to go home. He told Katherine it would be easy to fix. He quickly took out all of the tools he needed and went to work.

Name Elaborated

Katherine had just moved into an apartment and discovered the faucet didn't work. She couldn't do any cleaning without water so she called the plumber right away. The plumber was called to the apartment building. He had to fix a broken faucet. He told Katherine it would be easy to fix. She couldn't believe that she had not even been there a full day and something was already broken. She hoped that this wasn't a sign of what she had to look forward to in the future.

*Experiment 3**Semantic Elaboration*

Katherine had just moved into a new apartment and discovered that the faucet didn't work. She could not do any cleaning without water so she called the plumber right away. The plumber was called to the apartment building to fix a broken faucet. He quickly took out all of the tools he needed and went to work on the faucet.

Episodic Elaboration

Katherine had just moved into an apartment and immediately discovered a big problem. She really wanted to begin cleaning the entire apartment so she called the plumber right away. The plumber was called to the apartment. He was anxious to go home. He had been happily married for ten years and was going out for a romantic dinner to celebrate.

Background Section (Experiments 1, 2, 3)

There was so much that could break in an apartment building. With so many people living in one place, there was a lot of wear and tear. One small disruption would affect a lot of people. Once the elevator broke and the tenants were upset for a whole year.

*Experiment 4**Title Near*

The plumber was called to the apartment building. Katherine had just moved into an apartment and discovered a broken faucet. Katherine called the plumber right away to come and fix the faucet and restore the water

Title Distant

The plumber was called to the apartment building. Katherine had just moved into an apartment and discovered a broken faucet. Katherine called the plumber right away to come and fix the faucet and restore the water. If it wasn't a broken faucet, it would be another similar problem. There was so much that could break in an apartment building. With so many people living in one place, there was a lot of wear and tear. One small disruption would affect a lot of people. Once the elevator was broken and the tenants were upset for a whole year afterwards.

Name Near

The plumber was called to the apartment building. Katherine had just moved into an apartment and discovered a broken faucet. The plumber received Katherine's call and came to fix the faucet and restore the water.

Name Distant

The plumber was called to the apartment building. Katherine had just moved into an apartment and discovered a broken faucet. The plumber received Katherine's call and came to fix the faucet and restore the water. If it wasn't a broken faucet, it would be another similar problem. There was so much that could break in an apartment building. With so many people living in one place, there was a lot of wear and tear. One small disruption would affect a lot of people. Once the elevator was broken and the tenants were upset for a whole year afterwards.

Reinstatement Sentence (All Experiments)

The plumber knew about all the problems.
Katherine knew about all the problems.

Spill-over Sentence (Experiments 3 & 4 only)

The problems were mostly just a nuisance.

Closing (All Experiments)

The water finally worked. Now Katherine would be able to clean her apartment so she could finish moving in.

Question (All Experiments)

Was Katherine's oven broken?

*Experiment 1**Introduction*

The dancer dazzled the crowd with grace. She floated across the stage to the amazement of the crowd. Chadwick was in the crowd at the ballet. He had bought tickets for a girlfriend. Very surprisingly, he was enjoying the dancer's performance. Chadwick thought she was doing a wonderful job.

*Experiment 2**Title Elaborated*

The dancer dazzled the crowd with grace. She floated across the stage to the amazement of the crowd. She made all of the challenging steps look effortless. When she was on stage, she didn't hear anything other than the music. It was as if she forgot that thousands of people were watching. Chadwick was one of those in the crowd at the ballet. He had bought tickets for a girlfriend. Very surprisingly, he was enjoying the dancer's performance. Chadwick thought she was doing a wonderful job.

Name Elaborated

The dancer dazzled the crowd with skill and grace. She floated effortlessly across the stage to the amazement of the crowd. Chadwick was sitting in the crowd watching the ballet. He had bought tickets for a girlfriend as a surprise birthday gift. At the time, he did not think he would like the ballet but very surprisingly, he was enjoying the dancer's performance immensely. Chadwick thought she was doing a wonderful job. He was glad he had decided to buy the tickets after all.

*Experiment 3**Semantic Elaboration*

The dancer dazzled the crowd with grace and poise. She floated gracefully across the stage to the amazement of the crowd. She made all of the challenging steps look effortless. Chadwick was one of those in the crowd at the ballet. He had bought tickets for a girlfriend but he was enjoying the dancer's performance too. Chadwick was quite surprised.

Episodic Elaboration

The dancer was nervous about the date. Chadwick had finally asked the dancer out after months and months of intense flirting. She'd been wanting to go out with Chadwick but was shy. She had never even called a guy, never mind ask one out. He was really outgoing so it didn't matter. He suggested going to see a movie.

Background Section (Experiments 1, 2, 3)

The theater was full of people. The show had just opened a week ago and there had been a lot of talk about it in the news. The critics had loved the show. Tickets were beginning to sell out in advance. The show was so good, the night flew by.

*Experiment 4**Title Near*

Chadwick was one of the many people in the crowd at the ballet. Very surprisingly, Chadwick was mesmerized by the dancer's performance. The dancer floated across the stage to the amazement of the crowd.

Title Distant

Chadwick was one of the many people in the crowd at the ballet. Very surprisingly, Chadwick was mesmerized by the dancer's performance. The dancer floated across the stage to the amazement of the crowd. The crowd, which was mostly filled with little girls who hoped to one day become ballerinas, cheered with delight throughout the show. Most of the little girls didn't realize how much work it was. It was also very difficult to maintain a normal life because of the hectic schedule. However, on this night the little girls were just in awe of a great show.

Name Near

Chadwick was in the crowd at the ballet. The dancer floated across the stage to the crowd's amazement. Very surprisingly, the dancer had mesmerized Chadwick and the rest of the audience with a great performance

Name Distant

Chadwick was in the crowd at the ballet. The dancer floated across the stage to the crowd's amazement. Very surprisingly, the dancer had mesmerized Chadwick and the rest of the audience with a great performance. The crowd, which was mostly filled with little girls who hoped to one day become ballerinas, cheered with delight throughout the show. Most of the little girls didn't realize how much work it was. It was also very difficult to maintain a normal life because of the hectic schedule. However, on this night the little girls were just in awe of a great show.

Reinstatement Sentence (All Experiments)

The dancer was sad the show was all over.
Chadwick was sad the show was all over.

Spill-over Sentence (Experiments 3 & 4 only)

The crowd applauded for ten full minutes.

Closing (All Experiments)

After the show, the dancer was hungry so she went and got something to eat before going home.

Question (All Experiments)

Did Chadwick like the show?

*Experiment 1**Introduction*

Frederick was a great training partner. He helped to push the athlete when she didn't want to work anymore. The athlete worked really hard to stay in top shape. She was hoping to get a scholarship to play basketball in college. Frederick was quite proud. He knew the scholarship would be easy.

*Experiment 2**Title Elaborated*

Frederick had become a great training partner. He helped to push the athlete when she didn't want to work anymore. The athlete worked really hard to stay in top shape. She worked out at least twice a day, every day. She was hoping to get a scholarship to play basketball in college. She didn't have excellent grades so she knew basketball was the only chance she had to get into college. Frederick never doubted the scholarship. He knew winning the scholarship would be easy.

Name Elaborated

Frederick was a great training partner. He helped to push the athlete when she was tired and didn't want to work anymore. The athlete was working really hard because she was hoping to get a scholarship to play basketball in college. Frederick was pleased with the progress that had been made over the years. He knew he was responsible for most of it. He had a way of motivating other people that nobody could understand. He was proud of everything he had accomplished at the school.

*Experiment 3**Semantic Elaboration*

Frederick had become a great training partner. He helped to really push the athlete during the workouts. The athlete worked really hard to stay in top shape. She worked out twice a day, every day. She was hoping to get a scholarship to play basketball in college. Frederick never doubted the scholarship. He knew winning the scholarship would be easy.

Episodic Elaboration

Frederick was a math tutor. He was helping the athlete learn the different theorems in geometry. He set up tutoring sessions twice a week, and they seemed to be working. The athlete really struggled with academics. She was especially having a hard time learning the rules of geometry. She had already failed it once and was attempting to take it again.

Background Section (Experiments 1, 2, 3)

The school put a lot of time and effort into its students. For those having a hard time in class, extra help was always available. The school also put a lot of money into its sports programs. They believed it was a good way to keep kids out of trouble.

*Experiment 4**Title Near*

Frederick had become a great training partner by pushing the athlete to work out every day. Frederick was trying to help prepare the athlete for the basketball season because a college scholarship was at stake.

Title Distant

Frederick had become a great training partner by pushing the athlete to work out every day. Frederick was trying to help prepare the athlete for the basketball season because a college scholarship was at stake. A lot of students from the high school had been sent to college on sports scholarships. Even though it was a public high school, they put a lot of time and money into their sports programs and always had really good coaches and teams. They were proud of being one of the top schools in the state. Of course, that required time and effort.

Name Near

Frederick had become a great training partner by pushing the athlete to work out every day. The athlete was preparing for basketball season but needed Frederick's help training because a college scholarship was at stake.

Name Distant

Frederick had become a great training partner by pushing the athlete to work out every day. The athlete was preparing for basketball season but needed Frederick's help training because a college scholarship was at stake. A lot of students from the high school had been sent to college on sports scholarships. Even though it was a public high school, they put a lot of time and money into their sports programs and always had really good coaches and teams. They were proud of being one of the top schools in the state. Of course, that required time and effort.

Reinstatement Sentence (All Experiments)

The athlete was proud of the high school.
Frederick was proud of the high school.

Spill-over Sentence (Experiments 3 & 4 only)

Its programs had helped a lot of kids.

Closing (All Experiments)

The school was gaining state wide recognition for the way that it helped all of its students.

Question (All Experiments)

Did the school provide extra help?

Experiment 1

Introduction

The editor had ten manuscripts that she needed to read today. It seemed like she was always behind at work. Virginia walked into the office. She was bringing the editor more work. Virginia decided that she should probably stay out of sight for the rest of the day.

*Experiment 2**Title Elaborated*

The editor had ten manuscripts that she needed to read today. It seemed like she was always behind at work. She hadn't taken a day off in months and it didn't look like she would by taking one any time soon. She desperately wanted to get away but she knew it was impossible. Virginia quietly knocked on the office door. She was bringing the editor more manuscripts to read. Virginia decided that she should probably stay out of sight for the rest of the day.

Name Elaborated

The editor had ten manuscripts that she needed to read today. It seemed like she was always behind at work. Virginia quietly walked into the office. She was bringing the editor more work. She was afraid she might get yelled at for bringing more manuscripts. Virginia decided that she should probably stay out of sight for the rest of the day. She didn't want to get stuck with the extra work that nobody else wanted to do. She decided to try and keep a low profile.

*Experiment 3**Semantic Elaboration*

The editor had ten manuscripts that she needed to read today. She also had a meeting that day with an important author that the publishing house was trying to sign. Virginia quietly knocked on the door. She was bringing the editor more manuscripts to read. Virginia decided that she should stay out of sight for the rest of the day.

Episodic Elaboration

The editor was sitting at the desk dreaming about taking a vacation. It had been five years since she had gone anywhere. She decided to book a trip to the Caribbean. Virginia quietly walked into the office. She always hated to disturb the editor. Virginia decided that she should probably stay out of sight for the rest of the day.

Background Section (Experiments 1, 2, 3)

The office was located in one of the busiest sections of downtown New York. There was always a lot going on in the city. Celebrities and famous politicians could be seen walking down the street at any given time. Most days, it was a really exciting place to be.

*Experiment 4**Title Near*

The editor had ten manuscripts to read by the end of the week and Virginia was about to

bring a few more. Virginia knew the editor wouldn't be happy to see the new set of manuscripts.

Title Distant

The editor had ten manuscripts to read by the end of the week and Virginia was about to bring a few more. Virginia knew the editor wouldn't be happy to see the new set of manuscripts. Everybody was used to being really busy. The publishing house was the busiest one in New York. They worked with the top authors in the country. They also emphasized new talent so they were always receiving new material. They were constantly searching the country for the next hot writer. This meant a lot of reading had to get done in short periods of time.

Name Near

The editor had ten manuscripts to read that day and Virginia was about to bring a few more. The editor was not happy when Virginia brought in a more manuscripts that needed to be read.

Name Distant

The editor had ten manuscripts to read that day and Virginia was about to bring a few more. The editor was not happy when Virginia brought in a more manuscripts that needed to be read. Everybody was used to being really busy. The publishing house was the busiest one in New York. They worked with the top authors in the country. They also emphasized new talent so they were always receiving new material. They were constantly searching the country for the next hot writer. This meant a lot of reading had to get done in short periods of time.

Reinstatement Sentence (All Experiments)

The editor loved the energy of the city.
Virginia loved the energy of the city.

Spill-over Sentence (Experiments 3 & 4 only)

There was always something to do or see.

Closing (All Experiments)

For example, this week there were street fairs going on every day. Vendors were selling all different types of merchandise.

Question (All Experiments)

Was the office located in New York?

*Experiment 1**Introduction*

Cornelius hit the opponent as he ran down the court. The referee immediately blew the whistle. He wouldn't let that happen on the court. The referee paid close attention to all of the action. He let nothing go unnoticed. Cornelius was called for the foul. He angrily walked off the court.

*Experiment 2**Title Elaborated*

Cornelius hit the opponent as he ran down the court. The referee immediately blew the whistle. He knew the foul was intentional. He let everybody know that kind of behavior was not acceptable on the court. Cornelius angrily walked off the court after he was called for the foul. The referee paid close attention to all of the action. He let nothing go unnoticed. He watched every play carefully. He was known for calling a lot of fouls but he was also known for being fair.

Name Elaborated

Cornelius had hit the opponent as he ran down the court. He wanted the other team to know that he wouldn't be pushed around. He had a reputation for being physical on the court. He liked to intimidate the other players. The referee saw the hit and immediately blew the whistle. He knew the foul was intentional. He wouldn't let that kind of behavior happen on the court. Cornelius was called for the foul. He angrily walked off the court storming past the referee.

*Experiment 3**Semantic Elaboration*

Cornelius hit the opponent in the arm as he ran down the court with the basketball. The referee immediately blew the whistle. The referee paid close attention to the action. He was known for calling a lot of fouls but he was also known for being fair. Cornelius angrily walked off the court after he was called for the foul.

Episodic Elaboration

Cornelius looked at the referee. He would never get that out of shape. He wasn't sure how people could let themselves go. The referee saw the image on the screen and realized that he desperately needed to lose some weight. He had not realized how tight all of the clothes had become. Cornelius stopped staring and paid attention to the action.

Background Section (Experiments 1, 2, 3)

The state championship was on the line and it was a really close game. The bleachers were full of fans of all ages. They had painted their faces and were waving school flags. The screaming was so loud, the announcer could barely be heard over the loud speaker.

*Experiment 4**Title Near*

Cornelius hit the opponent in an effort to get the ball. The referee immediately blew the whistle. Cornelius was angry but it didn't matter. The referee could not give instructions because the crowd was so noisy.

Title Distant

Cornelius hit the opponent in an effort to get the ball. The referee immediately blew the whistle. Cornelius was angry but it didn't matter. The referee could not give instructions because the crowd was so noisy. The crowd reacted loudly to the call. At this point in the game because there wasn't a lot of time left, every call mattered. The score was tied so the crowd began heckling the opponent. They waved towels in the air and screamed whenever the other team had the ball. They really wanted to win and were surprised it turned out to be a close game.

Name Near

Cornelius hit the opponent in an effort to get the ball. The referee immediately blew the whistle. The referee knew the foul was intentional. Cornelius angrily stormed off the court and sat on the bench.

Name Distant

Cornelius hit the opponent in an effort to get the ball. The referee immediately blew the whistle. The referee knew the foul was intentional. Cornelius angrily stormed off the court and sat on the bench. The crowd reacted loudly to the call. At this point in the game because there wasn't a lot of time left, every call mattered. The score was tied so the crowd began heckling the opponent. They waved towels in the air and screamed whenever the other team had the ball. They really wanted to win and were surprised it turned out to be a close game.

Reinstatement Sentence (All Experiments)

The referee liked the crowd's enthusiasm.
Cornelius liked the crowd's enthusiasm.

Spill-over Sentence (Experiments 3 & 4 only)

The crowd's excitement was contagious.

Closing (All Experiments)

It had been a close game and the players' tempers were beginning to flare. The referee didn't want any fights.

Question (All Experiments)

Was the crowd interested in the game?

*Experiment 1**Introduction*

The soldier stood watch at the tower. While standing guard, he began to think about Isabella. Isabella was the soldier's fiancée. She thought it was a great thing to serve one's country. She often wondered what it was like to be in the army and what he did to pass the time.

*Experiment 2**Title Elaborated*

The soldier stood watch at the tower. Normally he didn't mind standing watch but tonight he was beginning to get bored and the shift had just begun. There weren't even any stars in the sky to look at. While standing guard, he began to think about Isabella and how beautiful she was. Isabella was the soldier's fiancée. She was back home counting the days until he returned. He couldn't wait to go home either. He wrote each day to say how lonely it was overseas.

Name Elaborated

The soldier was Isabella's fiancé. Isabella sat at home and thought about the soldier. She often wondered what it was like to be in the army and what he did to pass the time. Sometimes she thought it would be really exciting to be in a foreign country but the more she thought about it, the more she did not think she would like it. She figured as long as he liked it, it didn't matter whether anybody else would like it or not.

*Experiment 3**Semantic Elaboration*

The soldier held the gun and stood watch at the tower. He was stationed overseas, far away from family and friends. While standing guard, he began to think about Isabella and how beautiful she was. Isabella was the soldier's fiancée; a wedding was planned for next year. She was still living back home because it was too dangerous to move overseas.

Episodic Elaboration

The soldier wrote the love letter. It was Valentine's Day so he wanted to send something special to Isabella. The soldier was so in love, he wrote a letter every day. Isabella eagerly anticipated when the letters would come. She would take the letter someplace quiet and read it over and over. She saved each letter in a special handmade box.

Background Section (Experiments 1, 2, 3)

It was difficult living so far from one's family, especially during the holidays. Although plenty of activities and entertainment were provided, it just was not the same as being home. It took a lot of getting use to. Sometimes, it was difficult to pass the time until the next visit.

*Experiment 4**Title Near*

Isabella sat home counting the days until the soldier returned from overseas. Isabella was really lonely and was always searching for something to do. The soldier was lonely too but tried to keep busy with work.

Title Distant

Isabella sat home counting the days until the soldier returned from overseas. Isabella was really lonely and was always searching for something to do. The soldier was lonely too but tried to keep busy with work. Many people in the armed services and their families had a hard time adjusting. It was difficult being stationed so far from one's family, especially during the holidays. The army did its best to make everybody happy by providing activities and entertainment but it just was not the same as being home. Sometimes, both sides had trouble passing the time until the next visit.

Name Near

Isabella sat home counting the days until the soldier returned from overseas. The soldier was really lonely but tried to keep busy with work. Isabella was lonely too and was always searching for something to do.

Name Distant

Isabella sat home counting the days until the soldier returned from overseas. The soldier was really lonely but tried to keep busy with work. Isabella was lonely too and was always searching for something to do. Many people in the armed services and their families had a hard time adjusting. It was difficult being stationed so far from one's family, especially during the holidays. The army did its best to make everybody happy by providing activities and entertainment but it just was not the same as being home. Sometimes, both sides had trouble passing the time until the next visit.

Reinstatement Sentence (All Experiments)

The soldier fondly read old love letters.
Isabella fondly read old love letters.

Spill-over Sentence (Experiments 3 & 4 only)

It was nice to remember the good times.

Closing (All Experiments)

It wouldn't be long before the soldier was coming home to visit. Isabella couldn't wait to see him again.

Question (All Experiments)

Did Isabella live with the soldier?

*Experiment 1**Introduction*

The boss was reading through all of the mail. He couldn't believe how much junk mail there was. Victoria brought the boss more phone messages. She could tell he wasn't happy to get them. Victoria quickly left the office, she didn't want to get stuck doing any more work.

*Experiment 2**Title Elaborated*

Victoria brought the boss more phone messages. She could tell he wasn't happy to get them. Victoria quickly left the office, she didn't want to get stuck doing any more work. The boss was reading through all of the mail. He couldn't believe how much junk mail there was. He wished there was a way to filter out all of the junk mail. He got angry when he realized how much time he was wasting sorting the mail. There were other things that needed to be done.

Name Elaborated

Victoria brought the boss more phone messages. He was not at all happy to get them. She was worried that she would be reprimanded for interrupting. The boss was busy reading through all of the mail. He couldn't believe how much junk mail there was. Victoria quickly left the office, she didn't want to get stuck doing any more work. She had a feeling she would soon get stuck sorting the mail. She wondered if it was time to look for a new job.

*Experiment 3**Semantic Elaboration*

Victoria sat slumped in the chair. She didn't want to be yelled at by the boss. Victoria forgot to send out an important package and she was in big trouble. The boss looked at the employees. He was presiding over the weekly meeting, and things were not going well. He had to reprimand a number of employees for doing poor work.

Episodic Elaboration

Victoria brought the boss another stack of mail. She noticed the look of disapproval. Victoria quickly left the office, she didn't want to get stuck doing any more work. The boss was reading through the mail. He couldn't believe how much junk mail there was. He was angry when it became obvious how much time was wasted reading the mail.

Background Section (Experiments 1, 2, 3)

The office sold different kinds of insurance to the public. The most popular was car insurance but they also sold home and fire insurance. Each day brought a steady stream of people needing new policies or wanting to adjust their current policy. It was the same thing every day.

*Experiment 4**Title Near*

The boss was reading through all of the mail when Victoria brought in more phone messages. Victoria took one look at the boss's face and decided to leave the office as quickly as possible.

Title Distant

The boss was reading through all of the mail when Victoria brought in more phone messages. Victoria took one look at the boss's face and decided to leave the office as quickly as possible. Everyday was the same story. Work was always busy, with customers both calling and coming in. The office sold different kinds of insurance to the public. The most popular was car insurance but they also sold home and fire insurance. Each day brought a steady stream of people needing new policies or wanting to adjust their current policy. It was the same thing every day.

Name Near

The boss was reading through all of the mail when Victoria brought in more phone messages and some mail. The boss's unhappy face made Victoria turn around and leave the office as quickly as possible.

Name Distant

The boss was reading through all of the mail when Victoria brought in more phone messages and some mail. The boss's unhappy face made Victoria turn around and leave the office as quickly as possible. Everyday was the same story. Work was always busy, with customers both calling and coming in. The office sold different kinds of insurance to the public. The most popular was car insurance but they also sold home and fire insurance. Each day brought a steady stream of people needing new policies or wanting to adjust their current policy. It was the same thing every day.

Reinstatement Sentence (All Experiments)

The boss could not wait to take a break.
Victoria could not wait to take a break.

Spill-over Sentence (Experiments 3 & 4 only)

Sometimes the workload was just too much.

Closing (All Experiments)

The office was constantly busy from nine to five. It was nice to get away from all the noise sometimes.

Question (All Experiments)

Did the office sell computers?

*Experiment 2**Title Elaborated*

The sailor concentrated on the job at hand. The seas were rough and he had to get the boat back on course. Somehow, the wind had turned the boat off course and it had to be turned around. Christine was starting to get really nervous. She only agreed to come along to keep the sailor company. She was glad he knew what he was doing. He was confident he could get the situation under control. He kept trying to reassure Christine that everything would be alright.

Name Elaborated

The sailor assured Christine that the water would be smooth. He turned out to be completely wrong. She had foolishly agreed to go out on the sailor's boat. She had never been on a boat before but he said it would be fun. Christine sat nervously at the rear of the boat looking out at the rough water. She held on as tight as she could while the boat rocked back and forth. She felt like she was going to be sick.

*Experiment 3**Semantic Elaboration*

The sailor concentrated on the job at hand. The seas were rough and he had to get the boat back on course. Christine was starting to get really nervous. She only agreed to come along to keep the sailor company. He tried to reassure Christine that everything would be alright. She could not wait for the boat ride to be over.

Episodic Elaboration

The sailor was nervous about the big date. Christine finally gave up and agreed to go out with the sailor. He had been trying for weeks to get a date but she always said no. Then one day, she finally said yes. He had made plans for a romantic cruise. Christine was quite nervous about the date but somewhat excited.

Background Section (Experiments 1, 2, 3)

The day had started out nice. The sun was shining and there was not a cloud in the sky. As the day went on, the wind had picked up and the sky began to darken. Luckily, it did not look like it would start raining for a while.

*Experiment 4**Title Near*

Christine was nervous. The seas were rough and the sailor was having a hard time keeping the boat steady. Christine was glad that the sailor had experience and knew what to do in such bad weather.

Title Distant

Christine was nervous. The seas were rough and the sailor was having a hard time keeping the boat steady. Christine was glad that the sailor had experience and knew what to do in

such bad weather. It was a surprise that the weather had taken a turn for the worse. The day had started out nice. The sun was shining and there were no clouds in the sky. As the day went on, the wind had picked up, the sky began to darken, and the waves grew larger. Luckily, it did not look like it would start raining for a while.

Name Near

Christine was nervous. The seas were rough and the sailor was having a hard time keeping the boat steady. The sailor was experienced so that made Christine feel a little better in such a tense situation.

Name Distant

Christine was nervous. The seas were rough and the sailor was having a hard time keeping the boat steady. The sailor was experienced so that made Christine feel a little better in such a tense situation. It was a surprise that the weather had taken a turn for the worse. The day had started out nice. The sun was shining and there were no clouds in the sky. As the day went on, the wind had picked up, the sky began to darken, and the waves grew larger. Luckily, it did not look like it would start raining for a while.

Reinstatement Sentence (All Experiments)

Christine was grateful when they docked.
The sailor was grateful when they docked.

Spill-over Sentence (Experiments 3 & 4 only)

It was nice to finally be on dry land.

Closing (All Experiments)

Christine vowed that she would never to go out with the sailor again, no matter what he promised.

Question (All Experiments)

Was it raining out?

*Experiment 2**Title Elaborated*

Jeffrey nervously looked up at the cop. He had obviously been drinking. Jeffrey knew he didn't stand a chance. The cop had been parked on the side of the road. It was near the end of the shift and he was hoping nothing would happen so he could go home on time. He noticed a car swerving all over the road so he had no choice but to pull it over. He wasn't very happy so he at least hoped to get an arrest out of it.

Name Elaborated

Jeffrey was driving home from a night out with the guys. He knew that he had drank too much to be driving. He figured it wasn't a big deal because he only lived a couple of miles away from the bar. He knew it was dangerous but he had no other way of getting home. The cop watched the car drive by. He knew right away that Jeffrey was drunk. The cop was determined to make an arrest. He really hated drunk drivers.

*Experiment 3**Semantic Elaboration*

Jeffrey nervously looked up at the cop standing outside of the window. Jeffrey knew he did not stand a chance. He had bloodshot eyes and breath smelling of alcohol. The cop had been parked on the side of the road. He noticed a car swerving all over the road. He pulled the car over and hoped to at least get an arrest.

Episodic Elaboration

Jeffrey was shoveling the parking lot. He was anxious to go inside after an hour of shoveling. He saw the cop sitting in the car. Jeffrey wondered what was going on. The cop sat in the car and fiddled with the computer. He had no idea how to use it. He had a very big ego and never asked for help.

Background Section (Experiments 1, 2, 3)

It had been an unusually slow night for everybody. The weather wasn't that good so people tended to stay inside. It was only December but it had been snowing quite a bit. That meant it was going to be a long cold winter. Nobody liked to be outside in cold weather.

*Experiment 4**Title Near*

The cop was hiding on the side of the road. Suddenly, Jeffrey came over the hill swerving back and forth. Jeffrey didn't know the cop had been on the side of the road watching.

Title Distant

The cop was hiding on the side of the road. Suddenly, Jeffrey came over the hill swerving back and forth. Jeffrey didn't know the cop had been on the side of the road watching. Up until now it had been a very slow night. The weather was not that good so people tended

to stay inside. It was only October but it already felt like January. Temperatures were below freezing at night and only in the 40's during the day. That meant it was going to be a long cold winter. Nobody liked to be outside in cold weather.

Name Near

The cop was hiding on the side of the road. Suddenly, Jeffrey came over the hill swerving back and forth. The cop waited until Jeffrey raced past the parked car before putting the lights on.

Name Distant

The cop was hiding on the side of the road. Suddenly, Jeffrey came over the hill swerving back and forth. The cop waited until Jeffrey raced past the parked car before putting the lights on. Up until now it had been a very slow night. The weather was not that good so people tended to stay inside. It was only October but it already felt like January. Temperatures were below freezing at night and only in the 40's during the day. That meant it was going to be a long cold winter. Nobody liked to be outside in cold weather.

Reinstatement Sentence (All Experiments)

The cop walked into the police station.
Jeffrey walked into the police station.

Spill-over Sentence (Experiments 3 & 4 only)

The heat inside the building felt nice.

Closing (All Experiments)

He was anxious to get the long process of booking over with so he could go home.

Question (All Experiments)

Was it winter?

*Experiment 2**Title Elaborated*

The student was always very disruptive during class. He never listened to anything the teacher said and he made it difficult for the other children to do their work. Mackenzie hated sitting next to the student. She could never get any work done because he was always talking. She hoped that one day he would get kicked out of class and never come back. He was constantly running around the room making lots of noise or teasing the other kids. He especially enjoyed taunting Mackenzie.

Name Elaborated

The student was always very disruptive during class. Mackenzie hated sitting next to the student. She could never get any work done because he was always talking. She hoped that one day he would get kicked out of class and never come back. Mackenzie was just the opposite, always doing what she was told. She was every teacher's dream. She sat in class quietly and did all of the work on time. She always volunteered to stay late and help the teacher clean the classroom.

*Experiment 3**Semantic Elaboration*

The student was always disruptive during class. He never listened to anything the teacher said and didn't do the assignments. Mackenzie hated having a desk next to the student. She could never get any school work done. She hoped that one day he would get kicked out of class and never come back. Mackenzie was always asking to change seats.

Episodic Elaboration

The student could talk to anybody about anything, even if nobody listened. When nobody was around, he would just talk to the wall or an empty chair. Mackenzie hated sitting next to the student. She could never concentrate because he was always talking. She never replied but that didn't seem to help. Mackenzie was constantly trying to change seats further away.

Background Section (Experiments 1, 2, 3)

Even for those kids who were normally well-behaved, this time of the year was always tough. It was only a couple weeks before Christmas and everybody was excited. The thought of lots of presents and a week off from school was just too much for them to handle. Everybody had trouble concentrating.

*Experiment 4**Title Near*

Mackenzie hated sitting next to the student, who was always very disruptive during class. Mackenzie had trouble concentrating on school work because of the noise. The student talked, ran around, and played pranks all day long.

Title Distant

Mackenzie hated sitting next to the student, who was always very disruptive during class. Mackenzie had trouble concentrating on school work because of the noise. The student talked, ran around, and played pranks all day long. The teacher was having a very hard time controlling the classroom. Even for those kids who were normally well-behaved, this time of the year was always tough. It was only a couple of weeks before Christmas and everybody was really excited. The thought of lots of presents and a week off from school was just too much for them to handle. Everybody had trouble concentrating.

Name Near

Mackenzie hated sitting next to the student, who was always very disruptive during class. The student talked, ran around, and played pranks all day long. Mackenzie had trouble concentrating on school work because of the noise.

Name Distant

Mackenzie hated sitting next to the student, who was always very disruptive during class. The student talked, ran around, and played pranks all day long. Mackenzie had trouble concentrating on school work because of the noise. The teacher was having a very hard time controlling the classroom. Even for those kids who were normally well-behaved, this time of the year was always tough. It was only a couple of weeks before Christmas and everybody was really excited. The thought of lots of presents and a week off from school was just too much for them to handle. Everybody had trouble concentrating.

Reinstatement Sentence (All Experiments)

Mackenzie was really in need of a break.
The student was really in need of a break.

Spill-over Sentence (Experiments 3 & 4 only)

Christmas brought too many distractions.

Closing (All Experiments)

It would be nice to get away from all the other students and teachers for a while.

Question (All Experiments)

Was it almost summer vacation?

*Experiment 2**Title Elaborated*

Christian stepped up to the plate. He was one of the best hitters in the league but he had yet to get a hit in the game. The umpire stood behind home plate. He quietly observed all of the action. He took the job very seriously. He studied every pitch as if the World Series was on the line. He knew every call he made was critiqued by the television announcers. The umpire called the first pitch a strike. He knew Christian wouldn't like the call.

Name Elaborated

Christian stood close to the plate. He was a great hitter but he had yet to get a hit in the game. This time, he was determined to hit a home run. The umpire carefully watched the pitch. He called it a strike even though he knew it was close. Christian argued but it was pointless to argue with the umpire. Now he was really determined. He hit the next pitch as hard as he could and it went sailing into the parking lot.

*Experiment 3**Semantic Elaboration*

Christian stepped up to the plate. He was the best hitter in the league but he had yet to get a hit in the game. The umpire stood behind home plate. He concentrated on every single pitch. He knew every call was critiqued by the television announcers. The umpire called the first pitch a strike. Christian didn't like the call.

Episodic Elaboration

Christian tried to block out all the surrounding noise, including the umpire's groans. He needed to concentrate on the job at hand. Christian knew exactly what he needed to do. The umpire couldn't wait to go home. He had just eaten a chili dog and now had really bad heartburn. He grimaced while walking because the pain was so bad.

Background Section (Experiments 1, 2, 3)

To top everything off, it looked like it was going to rain. The sky was filled with dark clouds that threatened to open up at any minute. The clouds seem to come out of nowhere. Just minutes before, the sun was shining and there were no clouds in the sky.

*Experiment 4**Title Near*

Christian stepped up to the plate but didn't swing. The umpire called a strike. Christian didn't like the call and began arguing. The umpire got upset and began yelling back. Afterwards, the game progressed slowly.

Title Distant

Christian stepped up to the plate but didn't swing. The umpire called a strike. Christian didn't like the call and began arguing. The umpire got upset and began yelling back. Afterwards, the game progressed slowly.

The next few innings were uneventful. Both teams got some hits and made some good plays. The game was tied and it was the bottom of the ninth inning. There were two outs and the next batter already had two strikes. Somehow, he also managed to hit a home run to end the game without going into extra innings. The fans were on their feet cheering.

Name Near

Christian stepped up to the plate but didn't swing. The umpire called a strike. The umpire knew it was a close call. Christian tried to argue to no avail. Afterwards, the game progressed slowly.

Name Distant

Christian stepped up to the plate but didn't swing. The umpire called a strike. The umpire knew it was a close call. Christian tried to argue to no avail. Afterwards, the game progressed slowly. The next few innings were uneventful. Both teams got some hits and made some good plays. The game was tied and it was the bottom of the ninth inning. There were two outs and the next batter already had two strikes. Somehow, he also managed to hit a home run to end the game without going into extra innings. The fans were on their feet cheering.

Reinstatement Sentence (All Experiments)

Christian looked up at the dark clouds.
The umpire looked up at the dark clouds.

Spill-over Sentence (Experiments 3 & 4 only)

They looked ready to open up any minute.

Closing (All Experiments)

Luckily, the team was able to finish the game before it started to rain.

Question (All Experiments)

Did rain cancel the game?

*Experiment 2**Title Elaborated*

The biker cruised along the open highway. He loved to feel the sun shining down as he drove and looked at all of the scenery. He felt like all of the problems in the world just disappeared when he rode the motorcycle. Savannah sat on the back of the motorcycle and held on tightly. She was only nine but she had already been riding motorcycles for years. Savannah went with the biker almost everywhere he went. He really enjoyed having someone to talk to.

Name Elaborated

The biker cruised along the open highway. Savannah sat on the back of the motorcycle and held on tightly. She was only nine but she had already been riding motorcycles for years. She started riding when she was only four years old. At first she got really scared because the motorcycle made so much noise. After a while, she began to really like going for rides. Savannah went with the biker almost everywhere he went. He really enjoyed having someone to talk to.

*Experiment 3**Semantic Elaboration*

The biker cruised along the open highway. He loved to drive and look at all of the scenery along the highway. He wouldn't trade the freedom of the motorcycle for anything. Savannah sat on the back of the motorcycle and held on tightly. She was only nine but she had already been riding motorcycles for years. Savannah went everywhere with the biker.

Episodic Elaboration

The biker was trying to decide what to do. It was so hot out he was sweating in the shade. He had already changed clothes twice, and it was still morning. Savannah suggested going to the beach for the day. Savannah was visiting the biker for the weekend. She was only nine years old so she had to be constantly entertained

Background Section (Experiments 1, 2, 3)

It was a hot and sunny July day. Perfect for being outside. The roads were quite crowded as everybody tried to find a way to escape the heat. Most cars were headed towards the coast where it was sure to be a few degrees cooler because of the water.

*Experiment 4**Title Near*

Savannah sat on the back of the motorcycle and held on tightly. Savannah loved riding motorcycles and went almost everywhere with the biker. The biker really enjoyed having someone to talk to on long rides.

Title Distant

Savannah sat on the back of the motorcycle and held on tightly. Savannah loved riding

motorcycles and went almost everywhere with the biker. The biker really enjoyed having someone to talk to on long rides. This particular day was a hot July day, perfect for riding a motorcycle. There were a number of other motorcycles out on the roads too. The roads were quite crowded with cars as well as everybody tried to find a way to escape the heat. Most cars were headed towards the coast where it was sure to be a few degrees cooler because of the water.

Name Near

Savannah sat on the back of the motorcycle. The biker really enjoyed having someone to talk to on long rides. The biker took Savannah, who loved riding motorcycles, on a ride almost every day.

Name Distant

Savannah sat on the back of the motorcycle. The biker really enjoyed having someone to talk to on long rides. The biker took Savannah, who loved riding motorcycles, on a ride almost every day. This particular day was a hot July day, perfect for riding a motorcycle. There were a number of other motorcycles out on the roads too. The roads were quite crowded with cars as well as everybody tried to find a way to escape the heat. Most cars were headed towards the coast where it was sure to be a few degrees cooler because of the water.

Reinstatement Sentence (All Experiments)

The biker did not want the ride to end.
Savannah did not want the ride to end.

Spill-over Sentence (Experiments 3 & 4 only)

The cool breeze was nice and refreshing.

Closing (All Experiments)

Since neither the biker nor Savannah had anywhere to go, they decided to keep going until they got tired.

Question (All Experiments)

Was it hot out?

*Experiment 2**Title Elaborated*

Jacqueline was looking at buying a brand new minivan. She had just had twins and she needed a bigger car. The salesman eyed the people looking at the cars. He really needed to make a big sale. He hadn't sold any cars in over a week and the boss was getting upset. He had never had a problem selling cars before and he wasn't sure what was going on. He was determined to make a sale today. Jacqueline looked around for the salesman. He was already walking over.

Name Elaborated

Jacqueline was looking at buying a brand new minivan. She had just had twins and she needed a bigger car. She didn't want to buy a minivan but she really needed the extra room. She had thought about buying a sport utility vehicle but she couldn't really afford it. The salesman eyed the people looking at the cars. He really needed to make a big sale. He hadn't sold any cars in over a week and the boss was getting upset. Jacqueline looked around for the salesman.

*Experiment 3**Semantic Elaboration*

Jacqueline was looking at buying a brand new minivan. She had just had twins and she needed a bigger car to fit everything. The salesman eyed the people shopping for cars. He really needed to make a big sale. He hadn't sold any cars in over a week and the boss was getting upset. Jacqueline looked around for the salesman.

Episodic Elaboration

Jacqueline was looking at buying a minivan. She had just had twins and needed more room. She decided a minivan would provide the most room. Jacqueline cautiously approached the salesman. The salesman appeared really worried about something and preoccupied. He really needed to make some money. He was having trouble paying the bills and creditors were calling all of the time.

Background Section (Experiments 1, 2, 3)

Although the sale of minivans declined for a little while everybody was buying sport utility vehicles, they seemed to be on the rise again. Most people needed the extra seating that came in the minivan. It also helped that they were a lot more stylish than they were originally.

*Experiment 4**Title Near*

The salesman eyed the people looking at cars. Jacqueline wanted to buy a brand new minivan. Having just had twins, Jacqueline needed a bigger car. The salesman sensed a deal and began walking towards the minivans.

Title Distant

The salesman eyed the people looking at cars. Jacqueline wanted to buy a brand new minivan. Having just had twins, Jacqueline needed a bigger car. The salesman sensed a deal and began walking towards the minivans. Although the sale of minivans had declined for a little while because everybody was buying sport utility vehicles, they seemed to be on the rise again. Most people needed the extra seating that came in the minivan, and they seemed to get better safety ratings than most sport utility vehicles did. It also helped that they were a lot more stylish than they were originally.

Name Near

The salesman eyed the people looking at cars. Jacqueline wanted to buy a new minivan. The salesman sensed a deal and began walking towards the minivans. Jacqueline had just had twins and needed a bigger car.

Name Distant

The salesman eyed the people looking at cars. Jacqueline wanted to buy a new minivan. The salesman sensed a deal and began walking towards the minivans. Jacqueline had just had twins and needed a bigger car. Although the sale of minivans had declined for a little while because everybody was buying sport utility vehicles, they seemed to be on the rise again. Most people needed the extra seating that came in the minivan, and they seemed to get better safety ratings than most sport utility vehicles did. It also helped that they were a lot more stylish than they were originally.

Reinstatement Sentence (All Experiments)

Jacqueline selected a dark blue minivan.

The salesman selected a dark blue minivan.

Spill-over Sentence (Experiments 3 & 4 only)

It had a lot gadgets and safety features.

Closing (All Experiments)

Jacqueline liked the minivan but she needed some time to make up her mind and talk with her husband.

Question (All Experiments)

Did Jacqueline buy the minivan?

*Experiment 2**Title Elaborated*

The runner checked the time as she ran down the street. She was in the final phases of training for an upcoming marathon. She had never run a marathon before but she was confident that she was physically and psychologically ready. She had been training for a year and was really looking forward to the big day. Sylvester was the runner's husband. He liked to think he was helping with the training but Sylvester was really only there to provide encouragement on the sidelines.

Name Elaborated

The runner was training for a marathon and Sylvester was helping. She had never run a marathon so he was there to help. Sylvester double checked to make sure he had all the supplies that he would need. He carried a watch, a cell phone, some water, a power bar, and a towel. He usually drove along side the runner while she ran offering water and encouragement. He could tell it was really helping. The training was progressing at a nice pace.

*Experiment 3**Semantic Elaboration*

The runner checked the time as she ran down the street. She was in the final phases of training for an upcoming marathon and things like timing and distance were crucial. Sylvester was the runner's husband. He liked to think he was helping with the marathon training but Sylvester was really only there to provide encouragement and water on the sidelines.

Episodic Elaboration

The runner wanted to know the weather. She was hoping to relax and work in the vegetable garden. She had been really stressed out lately and needed to calm down. Sylvester, the runner's husband, put the weather channel on. He said that it would rain. He suggested they go to a movie instead. Sylvester wanted to get out of the house.

Background Section (Experiments 1, 2, 3)

Unfortunately, the weather had been bad for weeks. It was the beginning of summer but the sun never seemed to be shining. It rained almost every day. When it wasn't raining, the sky was full of clouds. It was not very good weather to be enjoying the outdoors.

*Experiment 4**Title Near*

Sylvester was the runner's husband. Sylvester helped with the training and provided encouragement on the sidelines. There was a lot of preparation. The runner was training for a marathon and had a strict training schedule.

Title Distant

Sylvester was the runner's husband. Sylvester helped with the training and provided encouragement on the sidelines. There was a lot of preparation. The runner was training for a marathon and had a strict training schedule. The marathon was in a couple of weeks so the training would start to slow down after this run. It was not good to run long distances right before the race because the body needs time to recover. The last couple weeks would be spent doing short distances and resting. It was also important to eat right. However, the toughest part was the mental preparation.

Name Near

Sylvester was the runner's husband. The runner was training for a marathon and had a strict training schedule. There was a lot of preparation. Sylvester helped with the training and provided encouragement on the sidelines.

Name Distant

Sylvester was the runner's husband. The runner was training for a marathon and had a strict training schedule. There was a lot of preparation. Sylvester helped with the training and provided encouragement on the sidelines. The marathon was in a couple of weeks so the training would start to slow down after this run. It was not good to run long distances right before the race because the body needs time to recover. The last couple weeks would be spent doing short distances and resting. It was also important to eat right. However, the toughest part was the mental preparation.

Reinstatement Sentence (All Experiments)

The runner felt raindrops begin to fall.
Sylvester felt raindrops begin to fall.

Spill-over Sentence (Experiments 3 & 4 only)

Hopefully it would not start to downpour.

Closing (All Experiments)

Both the runner and Sylvester were anxious for the weather to improve.

Question (All Experiments)

Was it fall?

*Experiment 2**Title Elaborated*

Sebastian was looking forward to the dinner. He had never been to one of the hostess's parties before. Sebastian hoped he didn't do anything embarrassing during dinner. The hostess walked through the house one final time, looking for anything that she might have missed. She had invited twenty people over for dinner. She was known for throwing great parties. She was so successful because she paid attention to every detail, no matter how small. She was also known for inviting only the most important people in town.

Name Elaborated

Sebastian was looking forward to the dinner. He had never been to one of the hostess's parties before. She was known for throwing great parties. The hostess only invited the most important people in town. After much debate, she finally decided to invite Sebastian. He was so relieved. He thought he would never be invited to a party. He had moved to town a few years earlier but was not yet fully accepted by the locals. He knew this party would help tremendously.

*Experiment 3**Semantic Elaboration*

Sebastian was looking forward to the dinner. He had never been to one of the hostess's parties before and was quite nervous. Sebastian hoped he didn't do anything embarrassing during dinner. The hostess walked through the house one final time. She was known for throwing great parties. She paid attention to every detail, and only invited the most important people in town.

Episodic Elaboration

Sebastian had never been to one of the hostess's parties before and was quite nervous. He was looking forward to it. Sebastian hoped he didn't do anything embarrassing during dinner. The hostess couldn't decide what to wear. She had hundreds of dresses, but none seemed appropriate. She finally decided on a dress but then couldn't choose a pair of shoes.

Background Section (Experiments 1, 2, 3)

The dinners were basically a place where the most important people in the town could get together and gossip. They talked about who was with who and who was getting a divorce. The women also liked to point out who had gained weight or underwent plastic surgery recently.

*Experiment 4**Title Near*

Sebastian couldn't wait for the dinner party because it was notorious for gossip. Sebastian had never been to one of the hostess' great parties. The hostess walked through the house to make sure everything was perfect.

Title Distant

Sebastian couldn't wait for the dinner party because it was notorious for gossip. Sebastian had never been to one of the hostess' great parties. The hostess walked through the house to make sure everything was perfect. The dinner parties were always a big success because of all the planning that went into them. They were basically a place where the most important people in the town could get together and gossip. They talked about who was with who and who was getting a divorce. The women also liked to point out who had gained weight or undergone plastic surgery recently.

Name Near

Sebastian was looking forward to the dinner party because it was notorious for gossip. The hostess double checked everything. The hostess always threw great parties. Sebastian was very excited when the invitation arrived in the mail.

Name Distant

Sebastian was looking forward to the dinner party because it was notorious for gossip. The hostess double checked everything. The hostess always threw great parties. Sebastian was very excited when the invitation arrived in the mail. The dinner parties were always a big success because of all the planning that went into them. They were basically a place where the most important people in the town could get together and gossip. They talked about who was with who and who was getting a divorce. The women also liked to point out who had gained weight or undergone plastic surgery recently.

Reinstatement Sentence (All Experiments)

The hostess loved to hear all the gossip.
Sebastian loved to hear all the gossip.

Spill-over Sentence (Experiments 3 & 4 only)

There always seemed to be a new scandal.

Closing (All Experiments)

The dinner party turned out to be a complete success. Everybody had a great time, including Sebastian.

Question (All Experiments)

Did Sebastian enjoy the dinner party?

*Experiment 2**Title Elaborated*

The cook hated Saturday nights. He thought the restaurant was too busy. Madison, the owner of the restaurant, always took reservations for too many people. She wanted to make as much money as possible. The cook thought it was a bad way to do business. He preferred to focus on quality over quantity. He tried to talk to Madison about it but she would not listen to anything he had to say. He decided to stay quiet while he looked for another job.

Name Elaborated

The cook was the only thing that Madison did not like. He was rude and arrogant. She wished she could fire the cook but he was too good. Right now, she had nobody to fill the position but she was secretly looking for a replacement. Madison loved owning a restaurant. She enjoyed meeting all of the different people that came in to eat each night. She liked making all of the decisions, such as when to be open and what dinners to serve.

*Experiment 3**Semantic Elaboration*

The cook hated Saturday nights. He thought the restaurant was too busy and the kitchen was rushed. Madison, the owner of the restaurant, took too many reservations. She only cared about money. She insisted the food come out fast so they could serve more people. The cook didn't think he had enough time to prepare each customer's dinner. Madison didn't care.

Episodic Elaboration

The cook disagreed with Madison about many things. One was scheduling. He wanted Saturday night off because it was date night. He was sick of going out on Tuesday nights. Madison didn't care what the cook wanted. She was the owner, and did not have to answer to anyone. She really only cared about how much money was being made.

Background Section (Experiments 1, 2, 3)

The restaurant had been getting great reviews by the local papers so more and more people were coming by to try it out. One particular night, there was a two hour wait for dinner. The kitchen was backed up and some customers were starting to get upset about the wait.

*Experiment 4**Title Near*

The cook hated Saturdays because the restaurant was too busy. Madison, the owner, took reservations for too many people. Madison wanted to make money but the cook thought it was a bad way to do business.

Title Distant

The cook hated Saturdays because the restaurant was too busy. Madison, the owner, took reservations for too many people. Madison wanted to make money but the cook thought it was a bad way to do business. Eventually, the quality of the food would suffer because the kitchen would be rushed. So far, the restaurant had been getting great reviews by the local papers so more and more people were coming by to try it out. One particular night there was a two hour wait for dinner. The kitchen was backed up and some customers were starting to get upset and complain.

Name Near

The cook hated Saturdays because the restaurant was too busy. Madison, the owner, took reservations for too many people. The cook tried to argue but Madison only wanted to make money, not serve good food.

Name Distant

The cook hated Saturdays because the restaurant was too busy. Madison, the owner, took reservations for too many people. The cook tried to argue but Madison only wanted to make money, not serve good food. Eventually, the quality of the food would suffer because the kitchen would be rushed. So far, the restaurant had been getting great reviews by the local papers so more and more people were coming by to try it out. One particular night there was a two hour wait for dinner. The kitchen was backed up and some customers were starting to get upset and complain.

Reinstatement Sentence (All Experiments)

The cook was not good at handling stress.
Madison was not good at handling stress.

Spill-over Sentence (Experiments 3 & 4 only)

A lot of the customers were complaining.

Closing (All Experiments)

Madison managed to get everything under control and the rest of the night went well.

Question (All Experiments)

Did the restaurant get bad reviews?

*Experiment 2**Title Elaborated*

Jefferson was in the teacher's class. He hated all of the writing that she assigned. He did not see any point in the assignments. She always wanted some type of creative story. Jefferson thought creative stories were useless. The teacher was staying after school to correct some papers. She liked to assign a lot of writing but she didn't like all the grading she had to do afterwards. After a while, she would get tired of reading the same paper over and over.

Name Elaborated

Jefferson hated any type of writing assignment. He never saw the point in any of the assignments. He didn't understand why writing was so important. He especially hated creative writing. He wasn't very good at making up stories that weren't true. The teacher agreed that Jefferson's fictional stories were not very good, but she thought he could get better if he practiced. The teacher assigned some type of writing every day. She thought writing was an important skill that needed to be learned.

*Experiment 3**Semantic Elaboration*

Jefferson was in the teacher's class. He hated all of the writing assignments. He did not see any point in the assignments. Jefferson thought creative writing was a waste of time. The teacher was correcting papers. She liked to give a lot of writing assignments but the grading took a long time. She had to read papers from thirty different students.

Episodic Elaboration

Jefferson was in the teacher's class. The teacher had just graduated from college. She was happy but worried about paying off all the college loans. While thinking about finding a new apartment, she noticed Jefferson looking outside. He didn't pay much attention to anything, but enjoyed looking out the window. He would much rather daydream than do any kind of work.

Background Section (Experiments 1, 2, 3)

Each year, the school sponsored a writing contest. One student from each grade level was selected as the top author. It was something that the students got really excited about. This year, each student was supposed to write a poem or a story that had a patriotic theme.

*Experiment 4**Title Near*

Jefferson hated all of the work that the teacher assigned, especially the writing assignments. Jefferson thought they were a waste of time but the teacher thought that learning to write well was very important.

Title Distant

Jefferson hated all of the work that the teacher assigned, especially the writing assignments. Jefferson thought they were a waste of time but the teacher thought that learning to write well was very important. The current assignment was to write a short story. It was part of a school-wide writing initiative. Each year, the school sponsored a writing contest. One student from each grade level was selected as the top author. It was something that the students got really excited about. This year, each student was supposed to write a poem or a story that had a patriotic theme.

Name Near

Jefferson hated all of the work that the teacher assigned, especially the writing assignments. The teacher thought that learning to write was important, but Jefferson thought all writing assignments were a waste of time.

Name Distant

Jefferson hated all of the work that the teacher assigned, especially the writing assignments. The teacher thought that learning to write was important, but Jefferson thought all writing assignments were a waste of time. The current assignment was to write a short story. It was part of a school-wide writing initiative. Each year, the school sponsored a writing contest. One student from each grade level was selected as the top author. It was something that the students got really excited about. This year, each student was supposed to write a poem or a story that had a patriotic theme.

Reinstatement Sentence (All Experiments)

The teacher read through a rough draft.
Jefferson read through a rough draft.

Spill-over Sentence (Experiments 3 & 4 only)

It was good but still needed some work.

Closing (All Experiments)

Each student submitted a story or poem for the contest. The judges had a tough job.

Question (All Experiments)

Did the school sponsor a writing contest once a year?

*Experiment 2**Title Elaborated*

The lawyer stood in front of the judge to argue over an objection raised by the prosecution. He was extremely bright and very convincing. Jurors loved the way he looked and the way he talked. He could get almost anybody off. He was skilled at finding holes in the prosecution's case. He managed to plant just the right amount of doubt in the jurors' minds. Theodore was the lawyer's current client. He was accused of murdering an ex-wife. Theodore was confident that he would be set free.

Name Elaborated

The lawyer representing Theodore was amazing. He was famous for getting even the most guilty clients off. The lawyer was confident he could win this case too. Theodore was accused of murdering an ex-wife. The marriage was not a happy one and he was presumed guilty by most of the community. He had no job and he stood to gain a lot of money from a life insurance policy that she had never changed. He knew he looked guilty but he wasn't worried.

*Experiment 3**Semantic Elaboration*

The lawyer stood in front of the judge to argue over an objection. Jurors loved the way he looked and talked. He was skilled at planting doubt in the jurors' minds. Theodore was the lawyer's current client. He was accused of murdering an ex-wife and faced life in prison. Theodore was confident that he would be set free by the jury.

Episodic Elaboration

The lawyer looked in the mirror. He made sure the thousand dollar suit was spotless. He was obsessed with appearance. The lawyer smiled in the mirror and went to meet Theodore. Theodore was accused of murdering an ex-wife. The marriage was not a happy one and he was presumed guilty by most of the community. He was scared to go to jail.

Background Section (Experiments 1, 2, 3)

The trial had a circus-like feel to it. The media were in the courtroom everyday and the trial was being broadcast on Court TV. It seemed that everybody across the country was interested in the trial. After four long weeks, the defense finally rested and the trial was over.

*Experiment 4**Title Near*

The lawyer argued over an objection raised by the prosecution in Theodore's case. Theodore was accused of brutally murdering an ex-wife. The lawyer would need to use every trick in the book to win.

Title Distant

The lawyer argued over an objection raised by the prosecution in Theodore's case. Theodore was accused of brutally murdering an ex-wife. The lawyer would need to use every trick in the book to win. The jurors probably already knew something about the case since it had been in the news for months. The trial had a circus-like feel to it. The media were in the courtroom everyday and the trial was being broadcast on Court TV. It seemed that everybody across the country was interested in the trial. After a four weeks, the defense rested and deliberations began.

Name Near

The lawyer argued over an objection raised by the prosecution in Theodore's case. The lawyer would need to use every trick in the book to win. Theodore was accused of brutally stabbing an ex-wife to death.

Name Distant

The lawyer argued over an objection raised by the prosecution in Theodore's case. The lawyer would need to use every trick in the book to win. Theodore was accused of brutally stabbing an ex-wife to death. The jurors probably already knew something about the case since it had been in the news for months. The trial had a circus-like feel to it. The media were in the courtroom everyday and the trial was being broadcast on Court TV. It seemed that everybody across the country was interested in the trial. After a four weeks, the defense finally rested and deliberations began.

Reinstatement Sentence (All Experiments)

The lawyer anxiously awaited the verdict.
Theodore anxiously awaited the verdict.

Spill-over Sentence (Experiments 3 & 4 only)

The waiting was always the worst part.

Closing (All Experiments)

The jury had been out for over a week. Nobody knew if that was a good sign or a bad one.

Question (All Experiments)

Was the trial televised?

*Experiment 2**Title Elaborated*

Angelina was going to drive the fan to the game. She knew he would be drinking so she didn't mind driving. Angelina was very considerate. The fan started preparing for the game early in the morning. He had managed to get tickets to the Stanley Cup finals. He had already gone to the store and bought a lot of food and drinks so he could tailgate. He was just putting the finishing touches on the face paint and then he would be ready to leave.

Name Elaborated

Angelina volunteered to be the designated driver. She didn't drink so she didn't mind driving. She would rather be safe than sorry. She was going to be driving a group of people to the Stanley Cup finals. The fan had gotten four tickets to the game from work. He had entered a lottery for the tickets and he actually won. The fan was thankful that Angelina was going to drive. She had just bought a new car so she was anxious to drive it around.

*Experiment 3**Semantic Elaboration*

Angelina was going to drive the fan to the game. She knew he would be drinking so she didn't mind driving. Angelina was very considerate and didn't have plans anyway. The fan started preparing for the game early in the morning. He had gotten tickets to the Stanley Cup finals. He had bought a lot of food and drinks for tailgating.

Episodic Elaboration

Angelina looked around the parking lot. She couldn't remember where the car was either. She had already looked in the different rows unsuccessfully. The fan couldn't remember where the car was parked. He always forgot things like keys or a license, even though he consciously tried to remember. The fan hated being so forgetful. Luckily, Angelina spotted the car from far away.

Background Section (Experiments 1, 2, 3)

When it was finally time to leave, it was starting to get late. At least it was a Sunday so there would not be a lot of traffic on the road. Most people were enjoying the day off at home. The ride usually took a little over an hour.

*Experiment 4**Title Near*

The fan had gotten tickets to the Stanley Cup finals. Angelina had bought food and drinks for tailgating. Angelina was going to drive the fan to the game so drinking and driving wouldn't be an issue.

Title Distant

The fan had gotten tickets to the Stanley Cup finals. Angelina had bought food and drinks for tailgating. Angelina was going to drive the fan to the game so drinking and driving wouldn't be an issue. Everyone around was excited for the game. The whole state had been going crazy with hockey fever. This was the first time in the team's history that they had made it to the Stanley Cup finals. Everybody was really excited. Tonight was game one in the seven game series. The stadium was packed with a wild crowd that cheered throughout the whole game.

Name Near

The fan had gotten tickets to the Stanley Cup finals. Angelina had bought the supplies for tailgating. The fan was worried about drinking and driving so Angelina offered to drive so it wouldn't be an issue.

Name Distant

The fan had gotten tickets to the Stanley Cup finals. Angelina had bought the supplies for tailgating. The fan was worried about drinking and driving so Angelina offered to drive so it would not be an issue. Everyone around was excited for the game. The whole state had been going crazy with hockey fever. This was the first time in the team's history that they had made it to the Stanley Cup finals. Everybody was really excited. Tonight was game one in the seven game series. The stadium was packed with a wild crowd that cheered throughout the whole game.

Reinstatement Sentence (All Experiments)

The fan actually enjoyed the car ride.
Angelina actually enjoyed the car ride.

Spillover Sentence (Experiments 3 & 4)

Everybody talked about the great game.

Closing (All Experiments)

Their team had managed to win the first game in overtime. Everybody was really excited.

Question (All Experiments)

Did the fan's team lose?

Appendix B

For all experiments reported in this dissertation, approval for use of human subjects was obtained from the University of New Hampshire Psychology Department Internal Review Board. Forms demonstrating proof of approval are included in this Appendix.

University of New Hampshire
 Institutional Review Board for the Protection of Human Subjects in Research
 Departmental Review Committee Exemption Classification Sheet

Project Director Edward O'Brien IRB # 16
 Department Psychology Reviewer _____
 Project Title Accessibility of named versus titled characters

Reviewer: Please write comments or contingencies of approval, if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

Protocol qualifies as EXEMPT under the following subsection (check one) - see reverse for detailed category description:

- 46.101(b)(1) Research conducted in established educational setting using normal educational procedures
- 46.101(b)(2) Educational tests, surveys, interviews, observation of public behavior/no risk
- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentiality mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(6) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-disfiguring manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus, mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing): physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Lumb

Date: 2/06/07

University of New Hampshire
Institutional Review Board for the Protection of Human Subjects in Research
Departmental Review Committee Exemption Classification Sheet

Project Director Edward O'Brien IRB # 1
 Department Psychology Reviewer _____
 Project Title The accessibility of information in a text

Reviewer: Please write comments or contingencies of approval, if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

Protocol qualifies as EXEMPT under the following subsection (check one) - see reverse for detailed category description:

- 46.101(b)(1) Research conducted in established educational setting using normal educational procedures
- 46.101(b)(2) Educational tests, surveys, interviews, observation of public behavior/no risk
- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentiality mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(6) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-disfiguring manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus, mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing); physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Limber

Date: 8/01/02

University of New Hampshire
 Institutional Review Board for the Protection of Human Subjects in Research
 Departmental Review Committee Exemption Classification Sheet

Project Director Edward J O'Brien IRB # 2
 Department Psychology Reviewer _____
 Project Title The accessibility of named versus titled characters

Reviewer: Please write comments or contingencies of approval, if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

Protocol qualifies as EXEMPT under the following subsection (check one) - see reverse for detailed category description:

- 46.101(b)(1) Research conducted in established educational setting using normal educational procedures
- 46.101(b)(2) Educational tests, surveys, interviews, observation of public behavior/no risk
- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentially mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(6) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-disfiguring manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus, mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing); physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Lambert

Date: 8/01/07

University of New Hampshire
Institutional Review Board for the Protection of Human Subjects in Research
Departmental Review Committee Exemption Classification Sheet

Project Director Edward J. O'Brien IRB # 1
 Department Psychology Reviewer _____
 Project Title The accessibility of named versus fitted characters

Reviewer: Please write comments or contingencies of approval, if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

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- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentiality mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(6) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-damaging manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus, mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing): physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Lumber

Date: 1/21/03

University of New Hampshire
Institutional Review Board for the Protection of Human Subjects in Research
Departmental Review Committee Exemption Classification Sheet

Project Director Edward O'Brien IRB # 2
 Department Psychology Reviewer _____
 Project Title Memory traits associated with title designated characters

Reviewer: Please write comments or contingencies of approval; if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

Protocol qualifies as EXEMPT under the following subsection (check one) - see reverse for detailed category description:

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- 46.101(b)(2) Educational tests, surveys, interviews, observation of public behavior/no risk
- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentiality mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(6) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-disfiguring manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus; mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing); physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Lumbrey

Date: 8/25/03

University of New Hampshire
 Institutional Review Board for the Protection of Human Subjects in Research
 Departmental Review Committee Exemption Classification Sheet

Project Director Edward O'Brien IRB # 18
 Department Psychology Reviewer _____
 Project Title The effects of intervening text on memory

Reviewer: Please write comments or contingencies of approval, if any, on a separate sheet of paper, and attach to this form. Place the completed form on file with the application for review, in the Departmental Review Committee files. Protocol applications and review forms will be forwarded to the Office of Sponsored Research each semester for reporting purposes.

Protocol qualifies as EXEMPT under the following subsection (check one) - see reverse for detailed category description:

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- 46.101(b)(2) Educational tests, surveys, interviews, observation of public behavior/no risk
- 46.101(b)(3) Educational tests, surveys, interviews, observation of public behavior not exempt under Subsection 2, above, if public official or if confidentiality mandated by federal statutes
- 46.101(b)(4) Study of existing data
- 46.101(b)(5) Study of public benefits or service programs
- 46.101(b)(5) Taste and food studies

Refer protocol to the regular IRB for EXPEDITED review under the following subsection (check one):

- 46.110(b)(1) Clinical studies of drugs/medical devices not requiring investigational new drug/device applications.
- 46.110(b)(2) Collection of blood samples by finger, heel or ear stick, or venipuncture in healthy adults >110 lbs., or others and children, considering age, weight, health, collection procedure, frequency and amount of collection.
- 46.110(b)(3) Prospective collection of biological specimens for research purposes by noninvasive means, and in a non-disfiguring manner: hair and nail clippings, teeth, sweat, saliva, placenta (after delivery), amniotic fluid (at membrane rupture/labor), dental plaque/calculus, mucosal/skin cells, sputum (after saline nebulization)
- 46.110(b)(4) Collection of data through noninvasive means routinely employed in clinical practice (excluding x-rays and microwaves, and devices not approved for marketing): physical sensors applied to the skin, weighing, tests of visual acuity, MRI, EKG, EEG, ultrasound, etc., and moderate exercise by healthy volunteers.
- 46.110(b)(5) Non-exempt research involving data, documents, records or specimens that have been/will be collected solely for nonresearch purposes (e.g., medical treatment or diagnosis).
- 46.110(b)(6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 46.110(b)(7) Non-exempt research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior, or research employing surveys, interviews, oral histories, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies.
- 46.110(b)(8) Continuing review of research such as studies permanently closed to enrollment of new subjects, or for which research-related interventions are completed, or for which only long-term follow-up of subjects remains, or for which no subjects have been enrolled and no additional risks have been identified, or for which data analysis is the only remaining research activity.
- 46.110(b)(9) Continuing review of research (not conducted under investigational drug/device applications or exemption) where categories 2 through 8, above, do not apply, and for which the IRB has determined that the research involves no greater than minimal risk, and no additional risks have been identified.

Refer protocol to the regular IRB for FULL BOARD action (cite reason on separate sheet)

Protocol cannot be approved as presented (cite reason on separate sheet)

IRB Reviewer: John Lube

Date: 10/21/03