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Linguistic Ambiguity in Language-based Jokes

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Master's Thesis

In partial fulfillment of the requirements for the degree of

Master of Arts in Communication

Fall 2009

College of Communication

DePaul University

Chicago, Illinois

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<u>**Chapter 1: Introduction**</u>

Language-based jokes find their humorous power through ambiguities apparent in the English language. Some rely on similarities of sounds (*sprain* the ailment vs. *Spain* the country), some rely on ambiguous word meaning (*trunk* of a car vs. *trunk* of an elephant), while still others rely on similar syntactic representations (*rose* the flower vs. *rose* past tense of *rise*). Prior studies on language-based jokes have focused on how the puns are processed for funny interpretation (Duffy, Kambe, & Rayner 2001, Giora 2003, Gorfein 2001, MacDonald, Pearlmutter, & Seidenberg 1994, Tabossi 1988) and translation issues (Antonopoulou 2004, Laurian 1992, Lew 1996, Ptaszynski & Mickiewicz 2004, Zabalbeascoa 1996). Currently, however, there seems to be a deficit of research regarding categorization, i.e. identifying frequencies of phonological, lexical, or syntactically-based jokes (for examples see Attardo 1994a, Attardo et al. 1994b, Bucaria 2004). Though a number of studies discuss isolated cases of linguistic ambiguity within the English language (Oaks 1996, Stageberg 1971, Taha 1983), few studies comprehensively explore patterns and frequencies of specific types of linguistic ambiguity, especially in the context of language-based jokes.

As Bucaria (2004) notes, "structural ambiguity in English is also favored by the morphologic characteristics of the language, where a noun often has the same form of a verb, or vice versa, or the past tense and the past participle of a verb often coincide" (p. 7) and "[word class ambiguity] is quite common in English, unlike in other languages, given the capacity of the same word to function as a noun, a verb or something else depending on the context" (p. 13). Therefore, the goal of this study is to uncover what mechanisms of language render English so flexible in the creation of language-based jokes and to what degree these mechanisms are utilized.

G1: To explore patterns in joke type, word class, word class progressions, use of morphologic/syllabic mechanisms, and compound word manipulations in the "serious" and "humorous" interpretations of puns.

As claimed by Raskin (1987), this type of analysis may "fail to take into account…the current advanced stage of development in linguistic theory" and "take linguistics back to the time when it was, for the most part, the linguistics of the word" (p. 12). Currently, this move from traditional approaches has lead to a frenzy of research regarding script-based theoretical approaches (for examples see Hempelmann 2004, Morreal 2004, Raskin 1985, Raskin 1987), which attempt a more holistic approach in analyzing the semantics of texts in entirety. However, the purpose of this study is not to uncover the parameters by which a joke is rendered as funny. It does not intend to argue against the script-based approach or Raskin's (1987) claim that "a text can be funny without any pun or word play in it, on the one hand…and the presence of an ambiguity may not render a text funny on the other" (p. 13). Rather, it seeks to systematically uncover patterns within phonological, lexical, and syntactically-based jokes that enable puns to occur and have

remained unexplored or unsupported at this point in time. To my knowledge, no comprehensive study (aside from Bucaria's 2004 study of humorous headlines) has sought to empirically uphold the lexical/syntactic frequencies presented in Attardo's 1994 study, which this study intends to do.

G2: To systematically uphold or challenge previous findings of Bucaria and Attardo related to joke type prevalence and word class progression.

In addition, Bucaria and Attardo along with other authors have used different standards for categorizing phonological, lexical, and syntactic jokes. This study intends to clarify these incongruent approaches.

G3: To identify discrepancies in categorizing language-based jokes, relate them to possible disparate findings in previous studies, and propose new methods and approaches to joke type categorization.

Finally, this study takes the theoretical approach first proposed by Edward Sapir and Benjamin Lee Whorf to discover how the English language may lead its speakers to think in certain manners. The Sapir–Whorf hypothesis proposes that the language one speaks affects how one thinks and, consequently, affects one's worldviews. In the context of puns, we can easily grasp the habitual way a language may promote certain interpretations (the serious meaning of the pun); but we also see the manners in which language is not typically used, promoting secondary, nonhabitual interpretations (the humorous meaning of the pun). This study explores the linguistics behind serious and funny interpretations of puns and how it might be related to the way English language speakers organize their realities.

G4: To explore how language pattern(s) in English puns contribute to our theoretical understanding of linguistic interpretation.

Chapter 2: Phonological, Lexical, and Syntactic Ambiguity as Mechanisms for Language-based Humor

Humor and jokes can manifest themselves in a number of ways from slapstick comedy to situational humor. Some humor relies on funny actions (like *The Three Stooges)* while some relies on a comedy of errors (such as *Much Ado About Nothing)*. Within the realm of linguistics, there also appears a corpus of jokes that distinguishes itself not by actions or situations but based on certain linguistic attributes or "features of natural language for their effect" (Zabalbeascoa 1996, p. 253). These jokes are known as language-dependent jokes, or more commonly as puns, and can further be characterized as either referential or verbal depending on the qualities they exhibit (Attardo 1994a). This chapter will outline the differences between verbal and referential humor and delineate specific characteristics of the four types of verbal humor: alliterative, phonological, lexical, and syntactic.

Referential Humor

According to Attardo et al. referential jokes are much more numerous than verbal (almost 4:1 in favor of referential due to "the preference of speakers for non-punning humor," Attardo 1994a, p. 102) and rely only on the meaning of the words for the humor to emerge (Attardo et al. 1994b, p. 28). Take the following example:

▪ *Why is life like a chicken coop ladder? It's <u>short</u> and <u>shitty</u>.* (Dundes [adapted] 1984)

This is considered a referential joke because the humor is not dependent on the actual words or their related linguistic forms but only on the meaning of those words. One test utilized by Attardo for distinguishing referential from verbal jokes is "if the text cannot be modified and still remain humorous, the humorous effect depends on the form [or linguistic sign] of the text" (1994b, p. 28). Utilizing this technique, first recognized by Cicero over 2,000 years ago, referential jokes can be remade using different words while still maintaining the same meaning and humorous effect. In taking our above example, we see that it is clearly referential in that it can be reworded as follows and still remain funny:

▪ *Why is life like a chicken coop ladder? It's <u>not very long</u> and <u>crappy</u>.*

Referential jokes do rely on certain aspects of language for their humor, namely their meanings. Of interest in this study, however, is the second type of language-based jokes, verbal jokes, whose humor relies not only on meaning but also on the "form [or linguistic sign] of the text" (Attardo 1994b, p. 28).

Verbal Humor

Verbal jokes depend not only on the meaning of a particular word, but also on the linguistic form in which the meaning exists. Take the following joke as an example:

▪ *Atheism is a non-<u>prophet</u> organization.*

Though the two meanings of the word definitely play a part in the humor of the joke, it is linguistic similarities unique to the language in which they occur (i.e. similar pronunciation of *profit* and *prophet*) that allow the two meanings to be associated in the first place. Difficulty in translating verbal jokes further establishes the key role of linguistic form in the execution of verbal humor. Because these jokes rely on linguistic form and not just meaning, translation is "either impossible or must rely on unsystematic correspondence between codes, or on sophisticated recreations of the same kind of meaning/sound correlations" (Attardo et al. 1994b). In other words, these jokes rely wholly on the language in which they exist, and not just meanings that frequently traverse languages.

But perhaps the most distinguishing characteristic in verbal jokes is that they "very often depend for their existence on linguistic ambiguity" (Lew 1996, p. 127; Oaks 1994). In other words, *they depend on the features of the natural language in question for the joke to even exist!* Ritchie points out "ambiguity (of various sorts) is a central device in much verbally expressed humor" (2004, p. 39). Gorfein also concurs: "the richness of language allows us to be *bound* for Santiago, *bound* and gagged, and *bound* along until we are out of *bounds*. All of these appear *bound* to confuse us…*bound* has multiple meanings. Similarly, most words have multiple meanings [emphasis added]" (2001, p. 3). In sum, a distinguishing factor of verbal jokes is ambiguity at some linguistic level.

The ambiguity that distinguishes verbal from referential jokes "can reside in a range of components in the linguistic system, such as the syntax, the lexicon, or the phonology" (Lew 1996, p. 126). Pepicello and Green adhere to this belief and analyze riddles on the basis of "language as a system consisting of basically three levels: (1) a level of sound or utterance, phonology; (2) a level of word formation, morphology; (3) a level of sentence formation, syntax" (1984, p. 14). Attardo (1994a) and Attardo et al. (1994b) also place verbal jokes into lexical, syntactic, and alliterative categories. Ferro–Luzzi distinguishes between lexical, syntactic, and phonological categories of verbal humor and includes rhyme and alliteration (like Attardo) in the latter (1986, p. 266). Taking these ideas collectively, verbal jokes depend on some degree of linguistic ambiguity at the phonological, lexical, or syntactic levels, and verbal jokes can be sub-categorized as such based on the type of ambiguity they exhibit.

Based on these previous studies, three major joke categories emerge: (1) phonological, (2) lexical, and (3) syntactic. "One way to determine the level of structure at which the ambiguity is situated is to identify the minimal string containing the part that varies between the two readings" (Lew, 1996, p. 127). In other words, does the linguistic ambiguity depend first and foremost on variance in sound (phonological), variance in meaning (lexical), or variance in sentence structure (syntactic). This is the approach taken by this study in categorizing puns.

The level of ambiguity, however, is not always immediately apparent and is described in more detail below.

Alliterative

Before describing the three categories of interest in this study, there is an additional verbal joke category which emerges that is not based on ambiguity – alliterative jokes. Alliterative jokes are still considered verbal jokes since they "involve direct reference to the linguistic choices of the surface structure of the utterance, as do lexical and syntactic" (Attardo et al. 1994b, p. 36). In other words, the basis of their humor is inextricably linked to the language in which it exists. However, alliterative jokes do not depend on linguistic ambiguity at any level for their humor. Rather, their humor is based on "the unexpected and exceptional repetitions of a sound or group of sounds" (1994b, p. 36). Take the following joke as an example:

▪ *Peter <u>P</u>iper <u>P</u>icked a <u>P</u>eck of <u>P</u>ickled <u>P</u>eppers.*

In this example it is the violation of sound frequencies that causes the humor rather than an ambiguous element. Rhymes also show a similar unexpected repetition of sounds as in this example:

▪ *Spider, spider on the <u>wall</u>. Ain't you got no sense at <u>all</u>? Can't you see the walls been <u>plastered</u>? Now you're stuck you silly <u>bastard.</u> (www.thevoiceofreason.co.uk/)*

Alliterative jokes are considered the exceptions in verbal humor since they do not depend on ambiguity for humorous effect.

Phonological

Similar to alliterative jokes, phonological jokes involve manipulations of words at the sound level. However, unlike alliterative jokes, phonological jokes rely on ambiguity for their humor. For example:

▪ *If a new Dodge <u>V</u>iper costs 15,000 bucks, what does a <u>v</u>indshield cost?*

This is a clear manipulation of two distinct but similar phonological interpretations. It does not rely on a repetition of legitimate words with similar sounds, nor does it depend on a lexical or syntactically ambiguous element. Rather, it plays on the similar yet distinct sounds of /v/ and /w/. Additionally, Lew points out "phonological ambiguity…is not mutually exclusive from lexical ambiguity" (1996, p. 130). In other words, humor based on phonological elements may result in lexical changes as well:

▪ *I keep reading 'The Lord of the Rings' over and over. I guess it's just force of <u>hobbit</u>.* (*www.punoftheday.com*)

It is clear in the above joke that *hobbit* and *habit* have two different lexical meanings; however, the humor is caused by their status as minimal pairs, varying only in the first vowel sound. In other words, it is the phonologically ambiguous element that causes the humor with underlying lexical distinctions based on which sound choice is made. Ferro–Luzzi identifies this tendency noting "some phonological jokes play on words differing only slightly in sound" (1986, p.

267). Additionally, phonological puns play with paronyms while lexical jokes (discussed below) depend on homonymy, homophony or polysemy.[1] Take the following joke as an example:

- *The magician who loved his chocolate could perform a lot of T<u>wi</u>x.*
  (*www.punoftheday.com*)

It could be argued that the *r* and *w* sounds apparent in this pun are close enough for it to be considered an example of lexical ambiguity. However, this joke would be labeled as a phonological (not lexical) manipulation; ambiguity at the phonological level drives the double meaning and is based on the similar but not identical sounds (i.e. minimal pairs) involved in the words *T<u>wi</u>x* and *t<u>ri</u>cks*.

Lexical

While phonologically-based jokes depend on "the modification of a sound, a unit smaller than the word" (Lew 1996, p. 130), lexical ambiguity often relies on homophones, homonyms, or polysemes (not paronyms) where sounds remain the same and the ambiguity lies in the lexical unit or lexeme (Attardo et al. 1994b, p. 34).

- *Who is that woman having lunch with Don? Oh..that's a <u>distant</u> relative of his; his daughter.* (Attardo et al. 1994b, p. 33)

A distinction must be made here regarding Attardo's definition of lexical ambiguity and Lew's definition. Attardo places verbal jokes into three categories: lexical, syntactic, and alliterative. The alliterative category does not account for ambiguous elements at the phonological level, merely unexpected repetitions of sounds or phrases. As a result, Attardo slips ambiguity based on phonology into the lexical category as in this example:

- *Best wishes from Mama and Pauper. (*Attardo et al. 1994b, p. 34)

Attardo et al. distinguish different types of lexical ambiguity: one "based on identical phonetic construction (for instance, 'high' and 'hi') and lexical puns in which there is a phonetic difference of some sort between the first and second sense/lexeme; that is, the lexical items are paronyms so that both of the 'senses' are apparent to the reader/hearer, though the 'words' are not phonetically identical" (1994b, p. 34). Where Lew might label the above "*hobbit*" joke as phonological, Attardo (despite mentioning several times the phonological dependence of this type of joke) might label it as lexical. *This study takes the approach proposed by Lew, including jokes based on homonyms, homophones, and polysemes in the lexical realm and those based on paronyms in the phonological realm.*

To further distinguish the lexical categorization, we must consider language-based jokes that manipulate morphemes. While Attardo, as stated above, defines lexical jokes as ones involving

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[1] Paronyms: words that are phonetically similar but not identical (*rice, rise*). Homophones: words that sound the same but are spelled differently and have different meanings (*to, two, too*). Homonyms: words with the same form but with different meanings (*rose* – the flower and the past tense of *rise*). Polysemes: single words with different meanings (*digest* – the figurative and literal interpretation).

ambiguity at the *lexeme* level, Merriam–Weber defines a lexicon as "the total stock of morphemes in a language" (*www.m-w.com*). Since morphemes and not just words are part of what is considered a language's lexicon, manipulations of morphemes could also fall into the lexical category. For the purposes of this study, morphological meaning ambiguity will also be considered a lexically-based joke due to its dependence on meaning and not sound ambiguity for the double meaning to occur. In the following joke for example, *tad, pol(e),* and *ish* all carry their own legitimate meanings in both interpretations of the joke[2] and would therefore be considered lexical:

- *Did you hear about the frog who traced his family history to Warsaw? He was a <u>tad Polish</u>.* (*www.punoftheday.com*)

In sum, jokes relying on lexical ambiguity involve two words with identical phonological representations but separate meanings that coexist within the context of the joke. They could also involve manipulation of legitimate, meaningful morphemes that elicit a serious and humorous interpretation. In addition, lexical ambiguity utilizes homonymy, homophony, or polysemy in creating the ambiguity, and can involve word class change.

Syntactic Ambiguity

Though seemingly clear-cut, different authors have varying interpretations of what constitutes syntactic ambiguity. On the surface, syntactic jokes depend on "a duality…of semantic interpretations motivated by the structural patterns of the language system" (Lew 1996, p. 128) and ambiguity not of any single lexical item but of the sentence at the syntactic level (Attardo et al. 1994b, p. 35). Most authors would agree that the following joke clearly involves syntactic ambiguity:

- *I rushed out and killed a huge lion in my pajamas. How did the lion get in your pajamas?*

The motivating factor behind the ambiguity in this case is prepositional phrase attachment. Items such as prepositional phrase attachment (Franz 1996, Lew 1996, Oaks 1994, Stageberg 1971a, Taha 1983), relative clause reduction (Franz 1996, Stageberg 1971a), modifier attachment (Oaks 1994, Taha 1983), pronoun antecedent (Oaks 1994, Taha 1983), and anaphoric referents (Attardo 1994a) are generally considered "non-lexical" or syntactic ambiguities (Attardo 1994a, p. 93). They will also be considered syntactic ambiguity for the purposes of this study.

Difficulties arise, however, in the realm of word class change. Word class can overlap with both lexical and syntactic ambiguities, exhibiting legitimate changes in meaning as well as syntactic function and often are connected in inseparable ways. We see this fuzzy boundary manifest in words like *tire* for example; while there exists two different meanings, *a rubber*

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[2] *Tad:* (1) *from tode* toad (2) a small or insignificant amount or degree. *Pol(e):* (1) *from polle* head, (2) a native or *inhabitant* of Poland. *–ish* (1) characteristic of, (2) of, relating to, or being.

cushion that fits around a wheel and *to become weary*[3], *tire*$_1$ can only function as a noun and *tire*$_2$ can only function as a verb.

MacDonald et al. (1994) speak to the connection of lexicon and syntax in their study of syntactic ambiguity resolution. MacDonald et al. propose a unified model through which "lexical and syntactic information in sentence comprehension is governed by common lexical processing mechanisms" and "syntactic ambiguities…are based on ambiguities at the lexical level" (1994, p. 682). They include grammatical tendencies (such as word class) into the lexical make-up of a word: "We assume that the lexical entry of each verb, preposition, noun, and adjective includes a representation of argument structure information…we also assume the lexical representation of a word includes other syntactic information" (1994, p. 683). In other words, within the meaning of a word is also information as to how a word can or cannot function in conjunction with other words or structure possibilities. Though the authors' interests lie on the processing level, they base their study on the idea that "the lexicon and syntax are tightly linked, and to the extent that information required by the syntactic component is stored with individual lexical items, it will be difficult to find a boundary between the two" (p. 682).

Franz (1996) also speaks to the lexical–syntactic ambiguities involved in word class change. Franz regards ambiguity in prepositional phrase attachment as "structural" (like Attardo's "lion" example mentioned previously) while designating part of speech ambiguity as "lexical syntactic ambiguity" (p. 13). From Franz's perspective, lexical–syntactic ambiguity seems to lie at the word-level ("many words can belong to more than one syntactic category or part of speech," p. 13) while structural ambiguity seems to lie on the sentence level ("when more than one syntactic structure could be assigned to a given sentence, the sentence is structurally ambiguous," p. 19). In addition, his approach takes into account that changes in the meaning of a word often involve changes in syntax at the word level.

While MacDonald and Franz take more unified approaches to syntactic and lexical ambiguity, some authors consider word class ambiguity as strictly lexical, reserving the syntactic label for items "based on the ambiguity of not any single lexical item…but of (parts of) sentences at the syntactic level" (Attardo et al. 1994b, p. 35). Chiaro (1992) sees it this way, identifying "lexical choices" as being key in the following joke, then notes "the recipient with a sense of humor will misread the adjective *stable* for a noun" (p. 20):

- *The corral's the big joke now – it just doesn't look very stable.* (Sack 1973, p. 135 as cited by Chiaro 1992)

Clearly, Chiaro places word class change in the lexical realm, while distinguishing syntactic ambiguity as "sentences contain rank-shift prepositional groups," lack a subject and/or object, or when indefinite articles are used (1992, pp. 40-42). Attardo et al. (1994b) appear to agree with Chiaro with respect to lexical/syntactic ambiguity. Though Attardo et al. (1994b) are not explicit

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[3] All definitions used in the study were adapted from Merriam-Webster Online, *www.m-w.com*.

about definitions, they seem to include word class change in the lexical category[4] placing deeper structural ambiguities in the syntax realm (i.e. *I rushed out and killed a huge lion in my pajamas. How did the lion get in your pajamas?*). Similarly, Pepicello and Green distinguish syntactic ambiguity as involving "phrase structure ambiguities, since the syntactic difference is revealed in the underlying trees, or phrase structure syntactic configurations of the ambiguous constructions" (1984, p. 24).

Still many authors consider word class ambiguity as an indicator of structural or syntactic ambiguity. Stageberg (1971) sees word class ambiguity as one of three types of structural ambiguity which "stems from the grammar of English, not from the meanings of words" (p. 357). (Pattern ambiguity and deep structure ambiguity are the other two mentioned.) Taha (1983) also places word class ambiguities in the structural realm regardless of a double lexical meaning. In using the example *French teacher*, he acknowledges its lexical nature with two meanings of the phrase "a teacher of French, or as a native of France who teaches" (p. 253); however, he categorizes the ambiguity as syntactic focusing on the confusion between compound noun and noun phrase containing a modifier. Bucaria's (2004) study of humorous headlines also shows support for word class ambiguity as syntactic. In his categorization of 135 humorous headlines, all of those which changed word class were considered syntactic.

Perhaps Oaks distinguishes the confusion the best. He uses the following two examples to illustrate:

- *Man in restaurant: I'll have two lamb chops, and make them lean, please. Waiter: To which side?* (Clark 1968, p. 191 as cited by Oaks 1994, p. 378)
- *Why was Cinderella thrown off the baseball team? Because she ran away from the ball.* (Rosenbloom 1976, p. 185 as cited by Oaks 1994, p. 378).

Oaks distinguishes between the two types of ambiguity above indicating that the first joke "represents more than just a particular word functioning with more than one meaning: the difference helps to create a structural ambiguity" (1994, p. 378). According to Oaks, the jokes "may initially appear to be very similar. But the ambiguity in 1 is significantly different than the ambiguity in 2, since 1 is not limited to only lexical ambiguity. The change in the meaning of lean in 1 actually results in a change in our perception regarding the structure of the sentence, creating structural ambiguity" (1994, p. 379). *This is the approach adopted for this study regarding word class and syntactic ambiguity.*

One caveat must be mentioned in taking this approach however. Most of the authors mentioned previously dealt with examples that had two legitimate syntactic interpretations. In the case of puns, we cannot carry the presumption that sentences and phrases will make grammatical sense in *both* interpretations. In many cases, puns will ignore the rules of grammar and syntax and merely depend on word play allowing for one grammatically correct interpretation

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[4] No concrete examples were given, but Attardo considers the ambiguity between the adjective "high" and the interjection "hi" as lexical (Attardo et al. 1994b, p. 34).

while offering another that butchers the syntax guiding our language patterns. This situation could prove important when categorizing word class changes as lexical or syntactic, and we may find word class ambiguity stopping at the lexical level in many cases. *For the purposes of this study, a change in word class does not preclude a "lexical" joke categorization. Word class change that involves two grammatically viable interpretations and falls into the definition presented by Oaks (above) will be considered syntactically ambiguous; those not producing two or more viable syntactic interpretations will be considered lexical.*

One other discrepancy may arise in the classification of syntactic jokes: the role of compound nouns within a particular joke. Take words such as *hot dog* or *high chair*. As Taha explains it, these constructions are ambiguous because they may be construed in two different manners: a cooked sausage or a dog which is hot, and a chair for babies or a chair which is high (Taha 1983, pp. 253-254). He notes "in each case the compound noun has a derived meaning, whereas the noun phrase can always be paraphrased as a _____which is _____" (1983, p. 255). Taha considers these to be syntactic ambiguity (compound noun or noun phrase with modifier). Bucaria concurs (2004, pp. 304-305), placing the following examples in the syntactic realm:

- *Bush, Dukakis Butt Heads*
- *Henshaw Offers Rare Opportunity to Goose Hunters*
- *Marijuana Issue Sent to a Joint Committee*
- *Antique Stripper to Display Wares at Store*

Perhaps explaining it the best, Stageberg identifies these syntactic ambiguities as "pattern ambiguity, [which] results from the syntactic pattern, or arrangement of words and structures" (Stageberg 1971, p. 357). According to Stageberg, patterns such as noun + noun head ambiguity (woman doctor, girl kidnapper) "offer a fertile field for structural ambiguity" (p. 361). *For the purposes of this study, compound nouns and/or noun phrase constructions of this nature also will be considered syntactically ambiguous.*

Prevalence of Phonological, Lexical, and Syntactic Verbal Jokes

Regarding which type of ambiguity is most prevalent, past research (though sparing) has shown lexical ambiguity to appear much more frequently than phonological or syntactic ambiguity. In Attardo et al.'s (1994b) analysis, they identified lexical jokes as the most frequent language-based jokes by far (92.5%) followed by syntactic (5.2%) and alliterative (2.3%). Bucaria's study of humorous newspaper headlines also found lexical ambiguity to be more prevalent (53%) and phonological ambiguity to be the least prevalent (only one example in the corpus); however, syntactic ambiguity (47%) was "much higher than that found by previous research regarding jokes" (2004, p. 280). A number of explanations could account for this discrepancy. First, as mentioned previously, word class ambiguity was always considered a syntactic phenomenon. We see this in the following examples from Bucaria's study:

- *Hershey <u>Bars</u> Protest*
- *<u>Kicking</u> Baby Considered to be Healthy*

Attardo et al., by contrast, considered ambiguity between the adjective "high" and the interjection "hi" to be lexical (1994, p. 37).[5] This discrepancy as to where to place word class ambiguity (in the lexical or syntactic realm) could have caused the discrepancy in the syntactic frequencies found in Bucaria's and Attardo at al.'s studies.

Another explanation could be that the structure of headlines lends itself more to the use of syntactic ambiguity than do puns, making this discrepancy between lexical percentages dependent on the contexts in which ambiguity is found (headlines vs. joke books). Bucaria attests to this point, concluding "differences exist between the humorous mechanisms of the register of jokes and that of headlines" (2004, p. 280). Along those same lines, Taha notes that word class ambiguity "is common in telegrammes and newspaper headlines" (1983, p. 252). Since word class ambiguity is considered syntactic by Bucarian standards, it is not surprising that syntactic ambiguity was much more prevalent than in Attardo's previous study. Finally, as mentioned before, Attardo would categorize jokes based on paronyms (*Best wishes from Mama and Pauper;* Attardo 1994, p. 34) as lexical, not phonological in function. As a result, he may have placed jokes considered phonological by Bucaria (such as, *Is there a ring of debris around Uranus?*; 2004, p. 296) into the lexical category thus inflating his lexical frequency in comparison with Bucaria's headlines.

Regardless of these discrepancies, to my knowledge only the two studies mentioned above have reported the frequency of ambiguity type (phonological, lexical, syntactic) both of which have different categorization standards. Stageberg's exploration of English language further problematizes the frequency of lexical ambiguity claiming, "lexical ambiguity [in its strictest sense, not including word class] is not a major cause of misunderstanding, because context usually restricts the possible meanings of a word to the one intended by the speaker or writer" (1971a, p. 357). Given this contrast, it seems highly appropriate to explore Attardo's 1994 findings as well as Bucaria's findings involving frequencies of phonological, lexical, and syntactic language-based jokes.

Summary

Many different linguistic mechanisms can be used in the creation of language-based jokes, namely alliterative, phonological, lexical, and syntactic. But what characteristics distinguish each joke type and to what degree each joke type is used in the formation of language-based jokes has revealed conflicting results when compared with past literature. Taking into account the

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[5] It should be noted here that Attardo et al. made this observation in reference to what he labeled as an alliterative joke (Today's tabloid biography: High chair, high school, high stool, high finance high hat —– hi warden! as cited by Meiers and Knapp 1980, p. 21). Despite the consensus that the alliterative element dominates, Attardo notes "it has, however, a lexical [homophonous] element which did make its analysis less straightforward" (1994b, p. 37). Syntactic implications are not mentioned at all.

distinctions described above, this study seeks to systematically uphold or challenge previous findings related to joke type prevalence as well as identify and resolve discrepancies in past categorizations of language-based jokes.

Chapter 3: Word Class Ambiguity as a Mechanism for Language-based Humor

Because word class can play a key role in lexical and syntactic ambiguities, it deserves a deeper and more thorough look. Opportunities for ambiguity to occur within the English language, and English-language jokes, are vast. MacDonald et al. note "almost all words in the English lexicon exhibit a nonzero degree of ambiguity, some acutely so" (1994, p. 677). In addition, "the richness of language allows us to be *bound* for Santiago, *bound* and gagged, and *bound* along until we are out of *bounds*. All of these appear *bound* to confuse us…*bound* has multiple meanings. Similarly, most words have multiple meanings" (Gorfein, 2001, p. 3). Attardo takes it one step further generalizing to all languages (except "sublanguages"): "practically every lexical item of the general nonrestricted vocabulary is ambiguous, i.e. can be actualized in various ways" (1994a, p. 93) and "it may be safely assumed that ambiguity in language is the norm in general, rather than the exception" (1994a, pp. 93-94). But how, and to what degree, does word class play a role in such ambiguity, especially in the genre of puns? This study hopes to address this question as well as how word class is related to the negotiation of the two meanings within a pun – the "serious" and the "humorous."

Bucaria (2004) seems to be the only author who has provided empirical evidence for frequency of word class use in creating humor, progressing from the simple phonological–lexical–syntactic categorizations presented in Attardo's (1994b) study discussed in the previous chapter. Bucaria's study found "in the case of lexical ambiguity, humor depends mainly on nouns, verbs, and prepositions" (2004, p. 301). In cases when word class did not change, Bucaria found that 25 verbs, 38 nouns, 5 prepositions, and 3 other classes enabled ambiguity in humorous texts when word class did not change. Assuming humorous headlines work in a similar manner as lexically-based jokes, nouns should be the most frequent enabler of ambiguity and adverbs should play a negligible role in pun ambiguity.

Regarding word class *change* in ambiguous situations, Stageberg (1971) identifies 9 instances as part-of-speech (word class) ambiguities and 34 types of structural ambiguities in total. Stageberg's categories seem the most exhaustive; however, Bucaria (2004), Oaks (1994), and Taha (1983) touch on and show support for a selection of the ambiguities identified by Stageberg. Just to name a few, Taha's exploration of syntactic ambiguity in English reveals N (noun)–V (verb) ambiguity in the following example:

- *College demands change.* (Taha 1983, p. 252)

Both *demands* and *change* can act as either nouns or verbs. Bucaria identifies the following as N–ADJ (adjective) ambiguity:

- *Marijuana Issue Sent to Joint Committee* (2004, p. 305)

Finally, Oaks exemplifies V–ADJ ambiguity in this example:

- *I'll have two lamb chops, and make them lean, please. To which side, sir?* (1994, p. 378)

Based on these analyses of ambiguity, five major patterns for word class change seem to emerge[6]:

1. N–V (Bucaria, Stageberg, Taha): i.e. *Use indelible ink and varnish all over* (Stageberg, 1971a, p. 360).

2. V–ADJ (Bucaria, Oaks, Stageberg): this includes the more obvious examples such as *Social legislation is the sound way to better living*; additionally, those involving participle/progressive verbs and adjective confusion (*she is smoking, he is finished*) will also be considered. *Man Eating Piranha Mistakenly Sold As Pet Fish* (Bucaria 2004, p. 306, not labeled as such).

3. N–ADJ (Bucaria, Stageberg, Taha): i.e. *Our milk has a stable flavor all year around* (Stageberg 1971a, p. 361); or for compound nouns, as in *the moving vans* (Taha p. 361).

4. V (particle)–PREP (preposition) (Bucaria, Oak, Taha): as in *Hillary Clinton [speaks] on Welfare* (Bucaria 2004, p. 306).

5. N–ADV (adverb) (Stageberg): i.e. *Raise the tongue back against the roof of the mouth* (1971a, p. 360).

Enablers of Word Class Change

Noun–Verb Ambiguity

As Lederer so eloquently states, "because modern English has shed most of the inflectional endings that distinguish one part of speech from another, its words possess the happy facility of changing functions with great ease" (1983, p. 161). In discussing word class changes, Bucaria notes that changes in word class are "common in English, unlike other languages, given the capacity of the same word to function as a noun, a verb or something else depending on the context" (2004, p. 301). Speaking to this with more specificity, Bucaria's study of ambiguous headlines and humor found that "in most of the headlines carrying structural ambiguity, confusion is created between the class of nouns and that of verbs. In other words, a word works as a noun in the serious sense but as a verb in the humorous one, or vice versa" (pp. 291-292). This finding is not surprising considering "there are 1,366 words that occur as both nouns and verbs, some with semantically unrelated meanings (e.g. *tire, bluff*) and others with related meanings (e.g. *cap, coin*)" (MacDonald et al. 1994, p. 679). Lederer also identifies the shift between nouns and verbs as "the most common variety" (1983, p. 162).

Related to this discussion of word class ambiguity is Oaks' study of language-based humor involving specific characteristics of the English language that may enable word class ambiguities. Regarding noun–verb (N–V) ambiguity, similarities in noun form and certain verb forms lend

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[6] Stageberg also mentioned ambiguity between *all* as a qualifier and *all* as a (pro)noun. In addition, *more* may work as a qualifier or adjective. Oaks (1994) notes a similar tendencies with the qualifier *a little*. Given the narrow scope of these word class ambiguities, I will be cognizant of the possible ambiguities involving qualifiers, but it will not be a focus of analysis at this point in time.

themselves to confusion in this regard. Specifically, singular nouns (*the march*) may have the same form as third person plural verbs (*they march*), like in Bucaria's (2004) example *Ban on Soliciting Dead in Trotwood.* Similarly, plural nouns often have the same form as third person singular (*What has four wheels and flies? A garbage truck*; Oaks 1994, p. 385). Bucaria finds this to be true in the following headline found during data collection, *Research Fans Hope For Spinal Injuries.* Bucaria notes "the humorous interpretation…has 'research fans' (meaning 'supporters of research') as the subject and 'hope' as the verb in the third person plural" (2004, p. 293). While in the serious interpretation, "'research' is the subject, and 'fans' is the verb in the third person singular (meaning 'to stir up, to increase')" (2004, p. 292). The same trend manifests in *Eye Drops Off Shelf.* Regarding this second example, Bucaria notes "humor is created by ambiguity between the morpheme expressing third person singular and the one indicating the pluralization of nouns, which in English happen to be homonyms" (2004, p. 292). Generally, it seems that lack of grammatical signals, or grammatical signals that are the same, cause N–V ambiguities. Specifically, noun plurality status and verb inflections can cause N–V confusion in the English language, as noted by Oaks, and also are evident in humorous texts, as shown by Bucaria.

In addition to the simple fact that certain noun and verb forms are the same in English, the absence of (in)definite articles (e.g. a, the) assists in ambiguity as well. Most singular nominal forms require an article (*We went inside <u>the</u> house.* vs. *We went inside <u>X</u> house*?); however, other types of nouns require no articles, and therefore lend themselves more to N–V ambiguity. Plural nouns do not usually require an article. For example, the joke mentioned above would not work had *flies* been singular (*What has four wheels and <u>a</u> fly?).* Non-count nouns – those that are not considered implicitly singular or plural – do not usually require an article either, providing more opportunity for N–V confusion (*This coffee is like mud. Well, it was ground this morning!)* (Clark 1968, p. 196 as cited by Oaks 1994, p. 383)]. Proper nouns are another example. Note the difference in the following sentences: *The boy went to the pool.* vs. *Bob went to the pool.* In fact, the absence of articles with proper noun usage can create N–V confusion and is taken full advantage of in an entire class of jokes known as quadriplegic jokes:

- *What do you call a man with no arms and no legs in a pool? Bob.*
- *What do you call a man with no arms and no legs in a pile of leaves? Russell.*

Overall, as Oaks notes, "the absence of an article [which often occurs with non-count, plural, and proper nouns] makes it more likely that a noun will be able to be confused with a different part of speech" (1994, pp. 381-382).

An additional opportunity for N–V confusion centers around words ending in *–ing*. This ending could identify with both nominal, adjectival, or verbal functioning within a sentence. Some words have even been used functionally in non-traditional word class roles (i.e. verbs acting as nouns – gerunds, or verbs acting as adjectives – participles) that their "origin" word class is shed completely. For example, some gerunds have appeared in noun positions for so long that they

have completely shed their recognizable qualities as verbs. They not only function as nouns but have taken on other nominal properties such as accepting articles or pluralizations (e.g. *a meeting, the meetings)*. Take one of Bucaria's (2004) puns as an example: *Court to Try Shooting Victim*. In this case, *shooting* could be a noun[7] (*the shootings*) or the participle form of the verb *to shoot*. The N–V ambiguity is what causes the humor and exemplifies yet another opportunity for word class change to occur. Further distinctions regarding gerunds and verbs are delineated below.

Bucaria (2004) notes "class ambiguity was found to involve mainly shifts between the classes of noun and verbs and vice versa" (Bucaria 2004, pp. 301-302); specifically, 26 instances of this type of word class switch were found. Given these observation, N–V ambiguity is expected to play a prominent role in pun ambiguity.

Verb–Adjective Ambiguity

Verb–adjective (V–ADJ) ambiguity involves a number of possibilities as well. The most opportunity seems to come with progressive[8], passive, and perfect forms of verbs. These forms utilize present (*–ing*) or past (*–ed*) participle in their formation, the former used in the progressive and the latter for both passive and perfect. This often is enabled by the multiple functions of BE and HAVE. With BE verbs, *–ing* participle forms could have two functions. An *–ing* form could serve as the progressive verb form as in *She is swimming*, or it could serve as a predicate adjective as in *She is stunning.* This similarity could result in ambiguity (Stageberg 1971a, Oaks 1994, Bucaria 2004) such as the following: *Is my son trying? Very!* (Kohl 1963, p. 11 as cited by Oaks 1994, p. 380). As Oaks notes, "the progressive is easily confused with an SVC (predicate adjective) construction" (1994, p. 380).

Stageberg (1971a) also exemplifies V–ADJ ambiguity with *Patent medicines are sold by frightening people.* In this interpretation, *frightening* could be considered the participle form of the verb *to frighten* or the adjective *frightening* which modifies *people.* Similarly, the *–ed/en* participle forms when used with BE could be used for passive verbal constructions (*It was needed*) or in the adjectival sense (*It was broken).* Take the following example as an illustration*:*

- *Why is playing volleyball dangerous? The ball is always spiked.*

In these cases it is unclear as to whether BE is serving in the helping verb function or as the main verb in itself. As a result, the interpretation of the *–ed/en* participle form could be as part of the main verb clause or as a predicate modifier. Oaks acknowledges this tendency in that "a passive sentence is very easily confused with an SVC (subject, verb, complement) sentence using a past participle" (p. 380). Bucaria also finds this type of ambiguity present in humorous

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[7] It should be noted that this gerund-verb–true-noun confusion is most frequent in headline-type puns such as this example. This is because headlines allow for the deletion of certain words (such as articles) in their formation. In a grammatically correct sense, the ambiguity would not have existed because it would have read as *Court to try the shooting victim*.

headlines like *Chinese Apeman Dated.* In this case, dated could be the reduced form of the passive verb construction *was dated* (meaning *to determine the date of*), it could stand alone as the main verb *to date* (meaning *to go out on usually romantic dates*), or it could have two adjectival meanings (*provided with a date* or *outmoded/old-fashioned*) that modify *Apeman*. This example also highlights the fact that many past tense forms and past participle forms are the same, offering yet another opportunity for confusion between simple past, reduced passive, and adjectival constructions. MacDonald et al. support this fact stating "only about 50 English words have different past tense and past participle forms (i.e. broke/broken, wore/worn); for the rest, the two forms are identical (raced, walked, sat, etc)" (1994, p. 683).

Additionally, Stageberg notes this type of confusion occurring with *–ed/en* participles in conjunction with perfect tenses. With these tenses the word HAVE is an obligatory auxiliary as in *I have gone to the store*. But HAVE also can serve as a main verb on its own, as in *I have a box of chocolates.* Stageberg uses this example to illustrate:

- *Only a few high schools have carefully developed programs* (1971a, p. 360).

In this case, *developed* could mean *to create or produce especially by deliberate effort over time*" in its participle sense or it could be used in its adjectival sense in which case the HAVE does not serve an auxiliary function. Given the above discussion, numerous opportunities for V– ADJ confusion seem to exist within the genre of language-based jokes.

Noun–Adjective Ambiguity

With the third type of ambiguity (noun–adjective, N–ADJ), the largest possibility seems to involve a combination of nouns (or compound nouns) intended as one entity but rather taken as a modifier and noun combination, or vice versa. Taha shows how this ambiguity can occur in legitimate compound nouns such as *briefcase, blackbird,* and *stronghold* (1983, p. 255). Additionally, Taha exemplifies a similar ambiguity with two nouns intending to work as one concept but interpreted as two or vice versa, as in *big shot, high chair,* and *orderly room* (1983, p. 254)*.* Bucaria, despite labeling this ambiguity as "Other Types of Syntactic Ambiguity," nevertheless provides examples of N–ADJ ambiguity, such as this humorous headline: *Hospital Sued by Seven Foot Doctors* (2004, p. 306).

Additionally, N–ADJ ambiguity may involve only one word with different meanings depending on word class, as in *the office had a firm look to it*. According to MacDonald et al., "analysis of words that are ambiguous between noun and adjective meanings yield a similar picture [as N–V ambiguity]. There are 155 such words in Francis and Lucera's corpus (e.g. special, current)" (1994, p. 369). Bucaria, however, found no examples of this when word class change from noun to adjective involved only one word; also, most examples found tended toward the use of compound/combination noun in ambiguity. Though opportunities are fewer, there still exists potential for N–ADJ ambiguity within language-based jokes.

Verb Particle–Preposition Ambiguity

The final category, verb particle–preposition ambiguity (V (part)–PREP), is not expected to play much of a role in lexical joke formation. As Franz distinguishes, "open class" words such as nouns, verbs, and adjectives are much more likely to conceptually extend their meanings and application, whereas closed class words such as pronouns, determiners, and prepositions (despite having a high frequency of use) rarely extend their meanings (Franz 1996, p. 11). Oaks briefly mentions this type of ambiguity as being present in jokes, but goes into no detail offering only this example:

- *Where are we eating? Let's eat up the street. Let's not, I hate concrete.* (1994, p. 397)

Taha also alludes to this possibility with the example *She looked over my shoulder*. Though Taha labeled this as ADV–PREP ambiguity, the concept is the same. Finally, despite mentioning the fact that "even prepositions are polysemous" (1994a, p. 93), Attardo does not focus on this ambiguity nor provide evidence as to its frequency of occurrence. Nevertheless, V (part)–PREP ambiguity shows yet another opportunity for word class change. And as Lederer points out, "as distinctions between one part of speech and another become blurred, almost any interchange is possible" (1983, p. 164).

Defining Word Class

According to Klammer, Schulz, and Volpe (2000), word class can fall into two categories: forms class words (nouns, verbs, adjectives, and adverbs) and structure class words (determiners, auxiliaries, qualifiers, prepositions, conjunctions, pronouns, relatives, and interrogatives). In some cases, word class may appear obvious and seemingly undisputable (*I couldn't figure out how to fasten my seatbelt. Then it <u>clicked</u>.* – verb). In other cases, however, word class is not so clear-cut:

- *Is the water on your farm healthy? Yes, we only have <u>well</u> water.*

In the humorous interpretation, *well* is an adjective meaning *free or recovered from infirmity or disease*. In the serious interpretation, however, *well* is a noun in form but serving an adjectival function.

Part of the purpose of this study is to explore word class patterns apparent in puns, and what these patterns might tell us about linguistic interpretation. In order to do so, a bit of time must be devoted to defining each word class, exploring peripheral cases of word classes, and adopting clear definitions of what constitutes each class as it plays a role in language-based jokes.

As stated in the previous chapter, puns rely on a certain level of linguistic ambiguity. Unfortunately, there has been a lack of agreement as to what constitutes each word class in the literature regarding linguistic ambiguity. For example, cases such as *–ing* formations (which could be considered nominal, verbal, or adjectival depending on the interpretation) and *–ed* formations

(which volley between verb and adjective status) have shown particular variances in interpretation. We see this occur in Taha's example of _dancing_ teacher. For Taha, the construction could be understood in two ways: "first, as a compound noun, and second as a noun phrase consisting of a modifier plus a noun" (1983, p. 255). In this case, there appears "a verb which has nominal use in compound nouns and adjectival use in nouns phrases" (1983, p. 256). Though obviously addressing the form and function issues, Taha does not indicate which specific word class _dancing_ would fall into. Stageberg also offers a similar example which he sees as being either a noun, verb, or modifier: _The flying teacher._ In another example, Stageberg identifies _by frightening people_ as verb–modifier ambiguity (1971a, p. 360). In a related example presented by Oaks, he labels the ambiguity as progressive-verb–predicate-adjective: _The peasants are revolting_ (1994, p. 380).

As shown, numerous attributions of word class could be given to very similar linguistic phenomena, and one could justify all of these interpretations. But problems arise in the lack of agreement as to what constitutes each word class in the cases of linguistic ambiguity. One issue is the use of the descriptor "modifier." Traditionally, a modifier is considered an adjective; but, as Klammer, Shulz, and Volpe (2000) point out, modifiers also can be nouns (_the kitchen sink)_ or participles (_the sleeping cat_). Therefore, in looking at word class, a word that modifies should not simply be called as such or assumed to be an adjective; rather, steps to identify its specific word class (noun, adjective, preposition, etc.) should be taken.

The second issue arises when authors do not explain how they came to place a word in a certain word class, nor provide a model for others to follow or critique. Take Taha's example of _dancing teacher_. In his explanation, he identifies _dancing_ as "a verb which has nominal use in compound nouns and adjectival use in noun phrases" (1983, p. 256). Though it seems he considers _dancing_ a verb, his explanation leaves the interpretation open to noun or adjective classes based on function, offering no further explanation. Even more troublesome is Stageberg's (1971a) example, _The flying teacher_. Both form and function seem fair game in his word class characterization, allowing for noun, verb, or modifier explanations. How he came about these labels, however, is not delineated in the text.

As a result, a consistent approach is needed for the characterization of word class that avoids the use of "modifier" as an explanation and delineates how word class is determined in each instance. The following is the approach used in this study for determining word class. This approach is based on Klammer, Shulz, and Volpe's (2000) rules for word class categorization using both formal and functional tests, and will hopefully address some of the categorization issues for this and future research.

Nouns

In Klammer, Shulz, and Volpe's definition of a noun, they state "typically, nouns name entities or concrete or abstract things (e.g. *pencil, Fred, sincerity*)" (2000, p. 449). To further delineate a noun from other parts of speech, Klammer, Shulz, and Volpe (2000, p. 62) suggest the following tests:

1. Has noun-making morpheme. (form)
2. Can occur with the plural morpheme. (form)
3. Can occur with the possessive morpheme. (form)
4. Without modifiers, can directly follow an article and create a grammatical unit. (function)
5. Can fit the frame sentence: *(The) _____ seem(s) all right.* (function)

In the context of jokes, some instances are obvious, easily passing all of the tests stated above. Take the following as an example:

- *Some people really enjoy blowing air out of their lungs. I'm not a <u>fan</u> myself.*

In this case, *fan* can mean *an ardent admirer or enthusiast* or *an instrument for producing a current of air*. In both senses, the word can be possessive (*the fan's loud voice, the fan's hum*), plural (*the rowdy fans, the oscillating fans*), and refer to concrete objects. In both senses the words are nouns and would be categorized as such. More important than this example, however, are the not-so-obvious examples which require more in-depth analyses.

First, there appear some cases where it simply isn't clear if the word is a noun or another part of speech. For example, not all nouns fit cleanly into the *noun* category, perhaps only passing one of the tests. Take this joke for instance:

- *The male pig puts everyone to sleep. You could say he's quite the <u>boar</u>.*

While *boar* passes all nominal tests, the joke's alternate meaning, *bore,* definitely fits along the periphery of nominal. In its most common uses, *bore* is a verb (Francis and Kucera 1982, p. 62).[9] However, it is possible in certain contexts (though few) to pluralize this word: *they are such <u>bores</u>.* We see this occur in other nouns that are derived from verbs but have not taken on full nominal functioning, such as *The game was a <u>wash</u>/Both the games were washe<u>s</u>*. It also can appear in possessive form (*The bore's monotone put me to sleep*), though not with much frequency and not appearing even once in Frances and Kucera's corpus.

According to the test delineated above, *bore* fits the formal tests for a noun based on Klammer, Shulz, and Volpe's tests. Though only loosely fitting the functional tests for a noun, *bore* clearly fits best in the noun category for function when compared to function tests for other word classes (discussed in more detail below). Therefore, in this case we would consider *bore* nominal in both form and function.

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[9] Approximately 85% of the references in Francis and Kucera's corpus were verbs.

A number of difficulties also may arise in the realm of compound nouns. Often, we do not know "whether the construction is meant to be compound noun or a noun phrase consisting of a modifier plus a noun" (Taha 1983, p. 253). Take this joke for example:

- *Two robbers with clubs went golfing, but they didn't play the <u>fairway</u>.*

This issue is more logistical in nature…how do we classify the word class progression for compound noun/adjective–noun (or other form) confusion? The compound nouns will always be classified compound nominal [N (compound)], since they will most likely pass all nominal tests *(1. the fairways were crowded, 2. the fairway's path, 4. the/a fairway).* The noun phrase interpretation will be labeled as just that…NP (ADJ+N). This will not be considered a word class progression as such, but rather a reinterpretation at the syntactic level similar to prepositional phrase attachment that does not involve word class change.

In this particular case, word class would be described as compound noun for the serious interpretation and noun phrase for the humorous interpretation.

Verbs

Verbs are form-class words that typically name actions, states, or conditions (Klammer, Shulz, and Volpe 2000). They are also recognizable "by their ability to change forms through inflection" (p. 68), namely by accepting 3rd person singular, past tense, past participle, and present participle endings. Though some verbs are easily identified (*eat, sing)*, others may prove a little more difficult to distinguish. As a result, Klammer, Shulz, and Volpe propose the following tests to identify verbs from other forms of speech:

1. Has verb-making morpheme. (form)
2. Can occur with present-tense morpheme. (form)
3. Can occur with past-tense morpheme. (form)
4. Can occur with present-participle morpheme. (form)
5. Can occur with past-participle morpheme. (form)
6. Can be made into a command. (function)
7. Can be made negative. (function)
8. Can fit in one of the frame sentences: *They must _____ (it); They must _____ good.* (function)

Let's take the following as an example:

- *She quit her job as a stenographer as she hated being <u>dictated</u> to*.

The humor in this pun is in the double meaning of the verb *dictated* ("read for a person to transcribe or for a machine to record" or "to speak or act domineeringly or to speak"). In both senses, we can see that *dictated* is a verb because it exists in its past participle form and can be negated. It also could exist as a command and loosely fits the first frame sentence. But not all

cases are so clear-cut, especially in the case of puns. The following example shows how verb forms may be the same as other word classes and thus conjure up two lexical meanings:

- *I had an appointment with the chiropractor, but I <u>backed</u> out.*

The play on words occurs with the word *backed (out).* In its non-joking sense, the verb *back (out)* would be considered a verb meaning *to withdraw especially from a commitment or contest.* As a verb, it can be made into a command and negative (*Don't back out)*; it also fits the frame sentence (*They must back out.*). In addition, as we see in the joke, it can accept the past participle ending –*ed.* In the joking sense, however, the pun plays on the alternate nominal meaning of *back – the rear part of the human body especially from the neck to the end of the spine.* Though clearly functioning in the verbal sense in the sentence, the identical verb and nominal forms allow both lexical meanings to be retained causing humor. This would thus be a case of V–N ambiguity.

By default it seems any word containing 3rd-person present tense (–*s*), past tense (–*ed*), present participle (–*ing*), or past participle (–*ed/en*) morphemes should automatically be classified as a verb. Though in many cases this will be true, some words (*meeting* for example) could also be nouns. In other cases, such as participles and gerunds, word class could be adjectival, verbal, or nominal. Take the words *frustrating* or *disturbed*. Though exhibiting inflectional morphemes typical of verbs, they are not necessarily verbs. The following sentences exemplify this:

1. The boy frustrating the teacher's efforts was asked to leave class.
2. The frustrating assignment caused the student much anxiety.
3. Disturbed by the teacher, the student left the classroom.
4. The disturbed student left the classroom.

Though in all four cases the examples seem to be verbal in form, only 1 and 3 are participle–verbs. Klammer, Shulz, and Volpe indicates that in order to distinguish adjectives from participles, the adjectival use "can be qualified and compared" (2000, p. 391). In other words, if the participle/adjective in question passes the adjectival tests in context, it is an adjective (very *frustrating* assignment/very *disturbed* student). If it doesn't, it is a participle–verb. As will be discussed in the *Adjective* section to follow, examples 1 and 3 do not pass the adjectival tests.

Cases 2 and 4 on the other hand are still verbal in form (since they exhibit the participle ending) but act as adjectives when placed to the functional tests. We know this primarily because they pass the adjectival tests such as intensifier acceptance and *more/most* additions. Subjecting them to the adjectival test is perhaps the best way to differentiate between participle–adjectives and participle–verbs.

Gerunds can also prove confusing with regards to word class. Take the following as an example: *Running can be fun.* Formally, running would be considered verbal in form since it exhibits the present-participle morpheme –*ing*. However, it appears in the word position reserved for nouns and fits the nominal frame sentence, thus passing the nominal functional tests.

In sum, words containing *–ing* or *–ed* endings may fall into a number of grammatical categories; and often a single word could be formally one word class and functionally another. Adding to the complexity, these inflectional morphemes traditionally are considered verbal; however, a number of words have been used in other senses for so long that their formal word class has changed (*meeting*). Especially in the cases of gerunds and participles, word class cannot be assumed based on word order or verbal inflectional morphemes alone; rather, care should be taken to test for possible adjectival or nominal features alongside verbal features. This is discussed in further detail in the *Peripheral Case* section.

Adjectives

An adjective is typically described as a word that "differentiates one member from all other members" (Klammer, Shulz, and Volpe 2000, p. 71), i.e. the girl vs. the *pretty* girl. But other word classes can also function adjectivally, such as nouns and participles. As a result, Klammer, Shulz, and Volpe proposes a number of characteristics typical of adjectives (2000, p. 73):

1. Has adjective-making morpheme. (form)
2. Takes comparative or superlative morpheme (form) or can be compared using *more* or *most.* (function)
3. Intensifies. (function)
4. Can fit both slots in the frame sentence: *The ____ man seems very ____.* (function)

The following pun is a clear case of adjectival ambiguity:

- *The <u>high</u> priest was arrested on drug charges.*

In both meanings (*foremost in rank, dignity, or standing* and *excited or stupefied by a drug*) the word *high* passes adjectival tests 2, 3, and 4. As a result, this would be a case or ADJ–ADJ ambiguity on both the formal and functional levels.

But not all instances appear to pass the adjectival tests with such ease. Nouns and adjectives with the same form are often exploited in puns. Take this joke for example:

- *He said I was <u>average</u> – but he was just being <u>mean</u>.*

In this case, *mean* could be taken to mean (no pun intended) *characterized by petty selfishness or malice* or *a value that lies within a range of values*. In its serious sense, it easily passes such adjectival tests by accepting comparative and superlative morphemes (*meaner*) and intensifiers (*very mean*). Therefore, in its serious sense, *mean* would be considered adjectival.

But in its humorous sense *mean* cannot take a comparative or superlative morpheme while maintaining its meaning; nor can it be intensified or fit within the adjectival frame sentence. It thus fails the adjectival tests for form and function. According to Klammer, Shulz, and Volpe, "the ability to inflect helps differentiate between nouns and adjectives that have identical base forms" (2000, p. 61). This is easily seen in *mean*'s humorous (nominal) sense, as it passes such inflectional tests as accepting plural and possessive morphemes (*the mean's value was 25, the*

means for both classes were identical) and fits into the frame sentence (*The mean seems alright.*). Thus, the humorous interpretation seems nominal in both form and function.

Further complicating the issue, however, is the joking interpretation of *mean* requires us to ignore grammatical rules. In its joking form, *mean* refers to the count noun and would therefore have required an article. The syntax of the pun as a whole works only with the serious interpretation, and we must overlook the rules of grammar in the interpretation of this joke. As discussed in Chapter 2, this is often the case in lexical jokes where meaning and word class change. For the purposes of this study, this would be a case of lexical ambiguity (since the syntax of the sentence as a whole does not change) with a word class progression of ADJ–N (since the serious and humorous interpretations pass the adjectival and nominal tests respectively).

Peripheral Cases

Gerund–Verb or True Noun

Difficulties may arise in word class classification when considering gerunds. Even Klammer, Shulz, and Volpe sees this confusion stating early on that gerunds are "verbs that occupy noun positions in sentences, a label indicating that they are not true nouns" (Klammer, Shulz, and Volpe 2000, p. 63). Later, the authors continue to seem noncommittal in their categorization of gerunds, stating "gerunds can have all of the constituents associated with the sentences from which they are derived. They can have a subject, take an object, be followed by a complement, or be modified by an adverbial phase" – clearly exhibiting properties of verbs in their underlying structure (2000, p. 376); then shortly after, the authors show how similar gerunds are to nouns in functions – can act as a subject, direct object, subject complement, or object of a preposition within a sentence (2000, p. 383). Finally, as indicated in by their "Degrees of Nounness" chart (2000, p. 64), gerunds fall outside the boundaries of nouns and the authors indicate that gerunds "even when in noun positions,… retain their identity as…verbs" (2000, p. 64).

Confusion arises because the –*ing* ending is typical of the verbal participle form and the lexical meaning associated with the verb is preserved, but the –*ing* word is occupying a noun position within a sentence. Causing additional confusion, there are a number of words that have evolved from gerund status to true noun status. Take *meeting* for example. *Meeting*, in many contexts, can pass the majority of the tests for nouns explained above because it has evolved over time into a true noun (*1. the two meetings, 2. the meeting's duration, 4. the/a meeting, 5. The meeting seems all right*). But when a gerund such as *singing* is put to these same tests, it does not easily pass all of them. The formal tests seem to indicate that *singing* is a verb given its present participle ending (*3. –ing is a verb-making morpheme*); but the functional tests indicate otherwise as singing passes these nominal tests (*4. <u>The</u> singing was loud, 5. The singing seems alright).* In contrast with the first case (*meeting*) which was considered nominal in both form and function, *singing* would be considered a gerund–verb exhibiting verbal form but nominal function.

Here we see that gerunds could be verbs in the formal sense while exhibiting characteristics of nouns in the functional sense. As Hudson put it more succinctly, "gerund phrases are verbal inside but nominal outside" (2003, p. 583). In other words, the instance must be looked at in context to completely determine the nature of its word class.

Present/Past Participle–Verb or True Adjective

Similar to the confusion mentioned above involving true nouns and verbal gerunds, words ending in *–ing* can appear in the adjectival position. Depending on the word, it could be considered the present participle form of a verb or a verb that has been used as an adjective for so long, it is now considered a true adjective. Perhaps the best way to determine if a word is a present participle–verb or a true adjective is whether it passes the adjectival or verbal tests. Take this following pun as an example:

- *He wanted desperately to be a good golfer – you could say he had a driving ambition.*

Driving is clearly placed in an adjectival position here. But it does not contain an adjective-making morpheme (*–ing* is considered a verb class morpheme), it cannot take the comparative or superlative forms (*drivinger? more driving?)*, it cannot accept intensifiers (*very driving?*), nor can it be compared using *more* or *most*. Therefore, it cannot be considered an adjective. But when put to the verbal tests we see it can be negated and turned into a command (*No driving*), and it appears with a verbal inflectional morpheme (*driving*). So in this case, word class would be a verb (both formally and functionally) in present participle form despite its adjectival positioning.

Other participles, however, "have occurred as modifiers so often and for so long that they have become adjectives. This is especially true of participles that express actions capable of existing in varying degrees" (Klammer, Shulz, and Volpe 2000, p. 374). In analyzing the following pun, we see how versatile (and confusing!) *–ing* endings may be:

- *What do you call an arrogant fugitive falling from a building? Condescending.*

The punch line of this joke is an adjective in one sense and a noun–present participle compound in another sense. *Condescending*, "to assume an air of superiority," passes a number of the adjectival tests including accepting intensifiers and comparative words. This is a case of a present participle having occurred as an adjective for so long that it now is considered a true adjective. In its other sense, however, *con* is considered the nominal subject and *descending* the participle verb, not adjective. *Descending* does not pass such adjectival tests as accepting intensifiers or superlative/comparative morphemes/words, nor does it pass any of the functional tests. It does, however, pass a number of formal tests for verbs (contains a verb-making morpheme and exhibits the present participle inflection) and loosely passes the functional verbal tests (can be negated).

Though not involved in the ambiguity of the joke, we see two other *–ing* phenomena occur. First, the word *falling* is acting as a participle–verb, not passing any of the adjectival tests, and

building is nominal being able to pass such noun tests as pluralization and article acceptance. In this example we truly see the gamut of ambiguity which *–ing* word forms can cause, and the necessity of laying out specific parameters for identifying each word class.

As with present participles, "many past participles have been used as nouns modifiers for so long that they have become adjectives" (Klammer, Shulz, and Volpe 2000, p. 391). Words like *frustrated*, *disturbed*, and *tired* are examples of such. Other past participles, despite their adjectival use, still maintain their verbal connotations. We see this in examples such as *the (very?) parked car.* The same tests, as described above in determining present participle–verb and true adjectives status should be applied in instances of past participle–verb/adjective ambiguity. It should be noted, however, that although present participles seem to play a significant role in pun formation, past participles are expected to play a negligible role in pun formation.

Adverbs

Based on the prior literature review, adverbs are not expected to play a large role in pun formation. In fact, the pilot test using puns from *www.punoftheday.com* supports this trend, as no instances of adverbial word class in pun formation were found. Bucaria (2004) also found no instances of ambiguity involving adverbs. Regardless, it is important to make note of a couple of features of this word class. There is one feature which is distinctive only of adverbs and not of other word classes – their mobility. "Although their normal position is immediately following the verb or at the end of the sentence, it is often possible, for emphasis and stylistic effect, to move adverbs within a sentence" (Klammer, Shulz, and Volpe 2000, p. 76). We see this occur in the following examples:

1. Suddenly the door opened.
2. The door suddenly opened.
3. The door opened suddenly.

In the above examples, *suddenly* clearly plays an adverbial role as is proven by its mobility in the sentence. Other tests outlined by Klammer, Shulz, and Volpe (2000) include:

1. Has adverb-making morpheme. (form)
2. Takes comparative or superlative morpheme (form) or can be compared with *more* or *most.* (function)
3. Intensifies. (function)
4. Can be moved within a sentence. (function)
5. Can fit in the frame sentence: *The man told his story _____.* (function)

The degree to which adverbs will play a role in puns, however, is expected to be minimal if nonexistent. This limited role of adverbs brings up another point of contention. A number of authors (Klammer, Shulz, and Volpe 2000, Oaks 1994, Stageberg 1971a Taha 1983) have noted

that words with identical forms but functioning as different word classes are often confused. As Klammer, Shulz, and Volpe (2000) points out, the most frequent adverb-making morpheme, *–ly*, is also used in adjectival formation, as in *friendly*. Additionally, adverbs can take comparative or superlative morphemes and may be compared using *more* or *most.* So why is it that adverbs and adjectives are not more frequently confused or utilized in pun formation? Perhaps this study will shed light on this matter.

Verb Particle or Preposition

The use of verb particles in the formation of a pun is a unique case. In many instances, a verb particle is mistaken for a preposition or vice versa. Since verb particles are technically parts of a verb, they should be considered constituents of form-class words. However, prepositions are structure-class words that "for the most part show no changes in form" and "typically have a limited, usually quite small number of members, and the membership is essentially fixed" (Klammer, Shulz, and Volpe 2000, p. 91). Interestingly, V (part)–PREP ambiguity seems to play a significant role in pun formation.

Klammer, Shulz, and Volpe define verb particles as "a word or words that combine with a verb to create a phrasal verb," that is a verb which is made up of two words such as *try on* or *think through* (Klammer, Shulz, and Volpe 2000, pp. 449, 451). Since the lexical meaning is dependent on the combination of the two – i.e. "the particle is essential to the meaning of the verb" (Klammer, Shulz, and Volpe 2000, p. 116) – verb particles in conjunction with its verb will be considered one lexical unit for this study. In fact, this is one of the tests proposed by Klammer, Schulz, and Volpe in determining whether the word is a particle or preposition. In order to distinguish verb particles from prepositions, Klammer, Shulz, and Volpe (2000, pp. 115-116, 402) introduces the following tests:

1. Verb particles exhibit two parts with only one lexical meaning. (form)
2. Verb particles and their corresponding verb can be replaced with one synonymous verb. (form)
3. Verb particles can be moved to end of direct object in transitive verb phrases. (function)
4. Verb particles do not have an object associated with them. (function)

It appears, however, that tests 1 and 2 are most reliable in determining word class. As Klammer, Shulz, and Volpe warns, "not all particles are moveable" (2000, p. 406), especially in the case of transitive verbs and idiomatic words and phrases (i.e. we cannot predict the meaning based on the phrasal verb's constituent parts). Take this pun for example:

- *A hole has been found in the nudist camp wall. The police are looking into it.*

In its non-joking sense, *looking into* means *to explore*. The two words in this case could be replaced with one word such as *investigating*. We cannot, however, move the verb particle and maintain a sensible meaning (*The police are looking it into?*). The source of the humor in this

case relies on the interpretation of *into* as a preposition rather than a verb particle. Another possible limitation is that some phrasal verbs are intransitive and thus have no (in)direct object around which the particle could move, as in the following example:

- *A man tried working in a shoe store, but he just couldn't seem to fit in.*

In its literal sense, *fit in* is working as a verb and verb particle. We know this because the two parts have one meaning (*to be in harmony or accord*) and the two words can be easily replaced with one word such as *belong*. However, *in* already appears at the end of the sentence and therefore cannot be moved any further. Additionally, it does not have a direct object around which the particle can move. In its literal sense, fit means *to conform correctly to the shape or size of*. And *in* works as a preposition indicating where he would fit someone's foot for example. Additionally, you could also replace the preposition *in* with another preposition (such as *into*) maintaining *fit*'s lexical meaning. This brings about a final test for verb particles not mentioned by Klammer, Shulz, and Volpe:

5. Verb particles cannot be replaced with another particle or preposition without losing meaning of main verb. (form – not mentioned by Klammer, Shulz, and Volpe)

This pun exhibits this feature perfectly: *Grass always grows up*. The preposition *up* could be changed to *down* and grows would still maintain its same meaning of "to spring up and develop to maturity." However, if *up* were changed in verb-particle form the original meaning would not be maintained: *to grow toward or arrive at full stature or physical or mental maturity*.

Summary

Within the English language there exists much overlap in both word meaning and word class. Often times the same word not only has many definitions but also many different functions and grammatical roles. Word class, as exhibited above, can play a key role in the creation of lexical and syntactic ambiguity within language-based jokes. And it is the purpose of this study to discover the degree to which ambiguous word class renders the English language so flexible and enables punning humor.

Chapter 4: Methodology

In the previous chapters, I have reviewed the different types of language-based jokes; I have defined phonological-, lexical-, and syntactic-based jokes; and I have presented tests for establishing word class and homonymity. Based on these reviews, a number of methodological concerns have surfaced, namely: (1) lack of attempts to obtain a representative sample; (2) lack of agreement on what constitutes phonological, lexical, and syntactic jokes[10]; and (3) lack of clear definitions for identifying word class. The first issue is addressed below in the data collection section. In an effort to address issues (2) and (3) and thwart resulting methodological concerns, specific characteristics of each categorization are delineated in a subsequent *Definitions* section.

Data Collection

Collecting a truly randomized and representative sample of any linguistic phenomenon is a considerable, and some may say insurmountable, task. The fact of the matter is that puns (like other linguistic phenomena) are as versatile, ever-changing, and numerous as the words on which they depend. They are continuously born, altered, put to rest, or resurrected as the situation, culture, society, or language requires. And the sheer number of possibilities for pun formation coupled with identifying which of these possibilities have in fact been actualized is something that realistically cannot be measured.

Clearly, obtaining a comprehensive, randomized, and representative list of puns in the traditional sense is not realistic. However, this does not downplay the importance of using a large number of sources in compiling the master data list, as well as utilizing a random sample from the data list obtained. Attardo et al. point out "we doubt that any collection of printed jokes may be 'representative' in the technical sense…if for no other reason than that the number of potential texts to be included is infinite" (1994b, pp. 30-31). In their own study, therefore, Attardo et al. made "no attempt at obtaining a 'representative' corpus" (pp. 30-31) in the analysis of 2,000 jokes. Instead they simply used all jokes available in four joke books, two of which had the same author. Fortunately, the majority of researchers chose jokes from multiple sources.

Despite this shortcoming in Attardo et al.'s study, they did use collections that were commercially available which seemed "a reasonable guarantee of their being 'representative' of what the average American thinks a collection of jokes should be; authors of commercial books will cater to their audience's tastes" (1994b, p. 31). Also, they noted the importance of "commercial success" (1994b, p. 31) in the sources they chose.

In addition to using a variety of sources and using sources that are readily available to the public, how the data set is chosen from these sources is also important. For example, in Tsakona's (2003) study of punch line vs. jab line humor, jokes were taken from his own personal

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[10] Authors often do not offer clear or all-encompassing definitions of what constitutes each joke category for their particular studies, and the somewhat ambiguous definitions of phonological, lexical, and syntactic jokes seem to vary from study to study.

collection of 1,500 riddles and narrative jokes…hardly a randomized sample, considering one may have an affinity for a certain type of pun. Though Hempelmann's (2003) study of Christian jokes utilized data from a variety of sources (Internet, printed collections), which "covers a broad range of the Christian joke lore" (p. 12), how the data set was acquired from these sources is not indicated. It cannot be assumed therefore that a randomized sample was attempted or that he simply did not chose those puns which seemed a good fit. Finally, Ferro–Luzzi's (1986) study of Tamil verbal humor indicates 11 sources from which the data was obtained; however, the author did not delineate in the text how the jokes chosen for analysis were selected.

Given these three factors – choosing from a variety of sources, using commercially available texts, and randomization in selecting the jokes for analysis – this study employs the following methodology.

Though not using commercially successful books as Attardo et al. (1994b) did, this study instead takes a broader sampling frame — the Internet. This frame was chosen for a number of reasons. First, information on the Internet is presumably easier to access than hard copy forms and more desirable since access is quick and it does not involve a fee. Second, as mentioned previously, puns and the language on which they depend are dynamic and in constant fluctuation. Books remain stagnant to linguistic changes and could be considered outdated from the moment of publication. The Internet, on the other hand, can be easily and instantaneously updated as linguistic changes or propensities manifest. Third, though there is no way to measure commercial success of Internet puns per se, a number of sites allow for their audience to submit their own puns, rate puns, and even vote for their favorite puns. In this regard, the data set could be considered "'representative' of what the average American thinks" and "cater[ing] to their audience's tastes" like Attardo et al.'s printed collection (1994b, p. 31).

Gary Hallock, International Save the Pun Foundation member and Pun-Off producer/emcee, suggested Mark Samwick's Web site (*www.go.to/puns*) as a source for Internet-based puns. This Web site not only contains an impressive list of pun information, but also various links to pun-related Web sites. Based on Mr. Hallock's recommendation, a total of 30 sites were identified from this source. The 30 links either appeared directly on Mark Samwick's site (24 in total) or appeared as subsequent links on the sites visited (6 in total).

Eighteen Web sites were eliminated for a number of reasons: (1) incorporated pictures or film; (2) involved foreign languages; (3) were merely informational articles; or (4) were advertisements or broken links. Sections of each Web site related to Spoonerisms, palindromes, or shaggy dog stories were eliminated.[11] Twelve Web sites were deemed suitable for data

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[11] A Spoonerism is an unintentional interchange of sounds, usually initial sounds. A palindrome is a word, verse, or sentence that reads the same backwards as it does forwards (*www.go.to/puns*). A shaggy dog story is a long story (that may or may not be humorous) followed by a punch line that is a distorted form of a well known saying (Binsted & Ritchie 2001). These jokes were eliminated due to their tendency to rely on other factors not related to ambiguity for their humor.

collection. From these Web sites, all available puns were collected, a master list was created, and each pun was assigned a distinct number.

Using the master list of almost 6,000 puns collected from the aforementioned Web sites, 225 puns were randomly selected for analysis.[12] The sampling unit for this study was one complete pun. Of the 225 puns, 21 were eliminated for lack of a phonologically, lexically, or syntactically ambiguous elements. In analyzing the remaining 204 jokes, a total of 251 instances of linguistic ambiguity occurred. All 251 instances were numbered and organized onto an Excel spreadsheet for ease of data manipulation. For each instance of ambiguity, two interpretations were identified: the serious and humorous. For all instances of ambiguity, joke type, word class, word class progression, homophony/homonymy status, use of morphologic/syllabic mechanisms, and compound word manipulations were identified. The following *Definitions* section delineates the details for each of these categorizations.

For the first 20 jokes, my advisor and I analyzed the jokes independently to ensure the reliability of our approach. If there was a question about how to classify a particular pun, I consulted with my advisor involved in this project for clarification. This analysis intended to address the first three goals of this study:

G1: To explore patterns in joke type, word class, word class progressions, use of morphologic/syllabic mechanisms, and compound word manipulations in the "serious" and "humorous" interpretations of puns.

G2: To systematically uphold or challenge previous findings of Bucaria and Attardo related to joke type prevalence and word class progression.

G3: To identify discrepancies in categorizing language-based jokes, relate them to possible disparate findings in previous studies, and propose new methods and approaches to joke type categorization.

Based on the first three research questions and any patterns which emerged, the serious and humorous interpretations were then compared and contrasted, and a more theoretical discussion was conducted from the perspective of the Sapir–Whorf hypothesis:

G4: To explore how language pattern(s) in English puns contribute to our theoretical understanding of linguistic interpretation.

Definitions

Joke Type

Previous researchers have been good about defining particular joke types for the purposes of their studies. This is encouraging as there seems to only be a need for agreement on one approach. As delineated in the literature review, puns (or verbal jokes) rely on two interpretations

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[12] Microsoft Excel was used to generate random numbers.

of one similar or identical linguistic representation. In other words, linguistic ambiguity enables the joke to occur. As Lew points out "one way to determine the level of structure at which the ambiguity is situated is to identify the minimal string containing the part that varies between the two readings" (1996, p. 127). Verbal jokes are thus subcategorized based on whether the two interpretations depend first and foremost on variance in sound (phonological), variance in meaning (lexical), or variance in sentence structure (syntactic). All of collected jokes that are considered to be puns were categorized into one of these three joke types based on the following proposed approach:

1. Phonological: Phonological jokes play with sounds — two different sounds drive the two interpretations and cause the humor. It is a change at the phonological level that initially causes the dual meaning, usually by manipulating (near) minimal pairs, and the words driving the pun will almost always be paronyms. *I keep reading 'The Lord of the Rings' over and over. I guess it's just force of hobbit.*

2. Lexical: Lexical jokes play with meanings — sounds are the same but two coexisting meanings in context drive the joke and cause the laughter. Specifically, it is a change at the word-level meaning or lexical level that elicits the two senses. Traditionally, any type of word class change is considered a characteristic of syntactic change. From the interpretation adopted in this study, however, it may be possible for lexical jokes to exhibit word class change. Lexical word class change is differentiated from syntactic in that only one interpretation works grammatically.

3. Syntactic: Syntactic jokes play with sentence structure — sounds are the same, only one meaning exists within a certain syntactic interpretation, but when the syntax of the entire pun is changed the joke occurs. Contrasting with lexical jokes, syntactic jokes require two legitimate grammatical interpretations for two meanings (or the joke) to occur.

Word Class[13]

Previous research in the realm of word class and jokes has seen less promise than that of joke type. Word class is often stated as matter-of-fact when in reality linguists themselves engage in debates of formal vs. functional definitions and other nuances that cloud discrete word class categories. For the purposes of this study, therefore, the word enabling the pun will be tested based on Klammer, Schulz, and Volpe's (2000) standards for word class membership:

Noun: "A noun must fit the frame sentence and have at least one of the characteristics listed" (2000, p. 62):

1. Has noun-making morpheme. (form)
2. Can occur with the plural morpheme. (form)
3. Can occur with the possessive morpheme. (form)

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[13] All word class tests are based on rules established by Klammer, Schulz, and Volpe (2000).

4. Without modifiers, can directly follow an article and create a grammatical unit. (function)

5. Can fit the frame sentence: *(The) _____ seem(s) all right.* (function)

Verb: "To be a verb, a word must have one or more of the qualities listed" (2000, pp. 69-70):

1. Has verb-making morpheme. (form)

2. Can occur with present-tense morpheme. (form)

3. Can occur with past-tense morpheme. (form)

4. Can occur with present-participle morpheme. (form)

5. Can occur with past-participle morpheme. (form)

6. Can be made into a command. (function)

7. Can be made negative. (function)

8. Can fit in one of the frame sentences: *They must _____ (it); They must _____ good.* (function)

Adjective: "Any word that has an adjective-making morpheme or can fit in both slots in the frame sentence must be an adjective" (2000, p. 72):

1. Has adjective-making morpheme. (form)

2. Takes comparative or superlative morpheme (form) or can be compared using *more* or *most.* (function)

3. Intensifies. (function)

4. Can fit both slots in the frame sentence: *The _____ man seems very _____.* (function)

Adverb: "No single criterion listed…for testing adverbs will work for every adverb" (2000, p. 77). Therefore an adverb should exhibit any one (or more) of the following characteristics:

1. Has adverb-making morpheme. (form)

2. Takes comparative or superlative morpheme (form) or can be compared with *more* or *most.* (function)

3. Intensifies. (function)

4. Can be moved within a sentence. (function)

5. Can fit in the frame sentence: *The man told his story _____.* (function)

Prepositions and Verb Particles: At times, confusion between preposition and verb particles may occur. These parts of speech are distinguished as follows (2000, pp. 115-116, 402):

1. Verb particles exhibit two parts with only one lexical meaning. (form)

2. Verb particles and their corresponding verb can be replaced with one synonymous verb. (form)

3. Verb particles cannot be replaced with another particle or preposition without losing meaning of main verb. (form – not mentioned by Klammer, Shulz, & Volpe)
4. Verb particles can be moved to end of direct object in transitive verb phrases. (function)
5. Verb particles do not have an object associated with them. (function)

Homonym Status

By definition, phonological jokes are expected to be paronyms. Lexical and syntactic jokes, however, could depend on homophony, homonymy, or polysemy. As a result, puns will be identified as relying on one of the following:

1. <u>Paronyms:</u> words that exhibit similar but not identical sounds (e.g. minimal pairs).
2. <u>Homophones:</u> two different words that are pronounced the same but spelled differently and have two (or more) meanings, respectively.
3. <u>Homonyms:</u> two different words (i.e. exist as two dictionary entries) that are pronounced and spelled the same but have two (or more) meanings, respectively.
4. <u>Polysemes:</u> a single word (i.e. exists as one dictionary entry) with two (or more) related meanings, respectively.

Chapter 5: Data Analysis and Results

Two hundred twenty-five jokes were analyzed for instances of phonological, lexical, or syntactic ambiguity. Of these 225 jokes, 21 were eliminated for lack of a phonologically, lexically, or syntactically ambiguous element. In analyzing the remaining 204 jokes, a total of 251 instances of linguistic ambiguity occurred. Before addressing the results regarding joke types, there are a couple of discrepancies that need to be discussed regarding joke type categorization.

Category Discrepancies

It must be noted that a number of jokes had more than one ambiguous element involved in the execution of the pun. In some cases, this would not be problematic for categorization since all instances were considered to be in the same joke category (i.e. phonological, lexical, syntactic). However, a number of instances exhibited characteristics of two or more joke types when multiple ambiguities were involved. Take the following as examples:

- *In frontier times, the town of Arial, Nebraska, was suffering mayhem. It was sans sherif.*
- *Resent the soldiers getting their limbs blown off in Iraq? I guess you're a War-Amp Harrier (bit of a stretch?).*

The first joke, *Arial* is clearly a case of lexical ambiguity, while *serif/sheriff* is considered phonological. This one is a little easier to grasp due to the distance between the two ambiguous instances and their ability to stand alone in an ambiguous instance. But what about the second joke? *War-Amp* and *Harrier* depend on each other for the execution of the joke and they are also in close proximity. However, each exhibits different types of ambiguity (*War-Amp* – phonological; *Harrier* – lexical). For the purposes of this study, each ambiguous instance will be assessed individually.

Phonological vs. Lexical

Assessing the phonological vs. lexical distinction proved to be more difficult than anticipated as well. This was primarily due to the various interpretations of what exactly constitutes a phonological joke. As discussed in the Chapter 2, I included morpheme manipulation in the lexical category. This was primarily in response to Merriam–Webster's distinction that a lexicon is "the total stock of morphemes in a language" (*www.m-w.com*). Even with this distinction, however, gray areas emerged.

The first gray area involved manipulation along *syllabic* lines. In these jokes, the division along syllabic (i.e. phonological) boundaries produced an alternative interpretation. Take the following jokes as examples:

- *When I built the extension to my house, I used as little wood as possible, because I wanted to conserve-a-tree.*

- *The farmer's new pig enclosure lacked a horizontal piece of wood below the window. The architect really should have drawn the blue prints with a pen-sill.*

In each case above, one interpretation may have involved morphological meanings, but the other interpretation did not have meaningful counterparts for each morpheme. In other words, *conserve a tree* all exhibited their own legitimate meaning but *conserv-a-tory* did not. Though a case could be made that –*ory* does possess morphological meaning (*place of or for*), the play was with the syllable –*tory* rather than the morpheme –*ory.* And that is the crux of the matter. In this example, it was the similar *sounds*[14] and not confusion between legitimate *morphemes* that caused the humor. The same occurred in the second joke in which –*cil* carries no meaning on its own. Again, it involved manipulation at the syllabic level (phonological) and not ambiguous meanings level (morphological/lexical).

In contrast, the following two jokes were considered lexical:
- *The essay doesn't reflector true feelings about contraptions designed to reflect light.*
- *Many people major in biology in college; however, not all of them go on to pursue careers in the subject. Those people who leave it behind cease to study the science of life and instead begin learning a new branch of the science: byeology of the subject.*

In the first case, the free morpheme *reflect* is taken in its figurative and literal forms; while *her* (*feminine possessive*) and –*or* (*one that does a specified thing*) not only sound similar, but each carry their own legitimate morphological meanings. The second case is similar. –*ology* has the same meaning in both interpretations, while *bi*– and *bye*– exhibited separate morphological meanings (*life: living organisms or tissue* or *interjection used to express farewell*). In both cases, it was confusion between morphological meanings that caused the ambiguity. In looking at similar examples in Bucaria's study, Bucaria seems to agree with this interpretation (though the argument is not explicitly stated). The first joke below Bucaria considers to be phonological (it relies on syllabic reinterpretation for the execution of the pun); the second joke he considers to be lexical (it is divided along morphologic lines):
- *Is There a Ring of Debris Around Uranus?*
- *Air Head Fired*

Another gray area involved what I call *hanging* syllables and morphemes. In other words, one interpretation used all the syllables or morphemes while the other used the alternative meaning of only one syllable or morpheme, leaving a "hanging" component. These jokes were considered phonological due to the fact that all morphemes did not contribute to both possible meanings of the joke. Take the following two cases as examples:
- *If a naval officer loses a limb in battle and is given an honourable discharge, then in order to get it reattached he must join the army.*
- *I used to be a fisherman, but I got caught playing hooky.*

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[14] According to Merriam Webster online, a syllable is "a unit of spoken language that is next bigger than a speech sound." Based on this distinction, jokes utilizing syllabic divisions for humor will be relegated to the *sound* or *phonological* realm.

Contrast this with the jokes below, which were considered lexical due to their use (though atypical and perhaps agrammatical) of all morphemes:

- *What's a snappy title for a review on Edward Scissorhands?*
- *Why is the man who invests all your money called a broker?*

As stated in the Methods chapter, there has been tremendous lack of agreement on what constitutes phonological, lexical, and syntactic jokes. One of the goals of this study was to take all approaches into consideration and also address any peripheral cases which may not be so clear-cut. The discussion above regarding multiple points of ambiguity in the same joke and morphological vs. syllabic divisions is my attempt to further clarify the peripheral cases found in this study for future authors.

Though much of the literature has discussed the distinction of sound ambiguity (phonological joke) and lexeme-based meaning ambiguity (lexical jokes), undiscussed thus far is ambiguity based on syllabic divisions and morphological divisions that walk the line between phonological and lexical categorization. In fact, almost one half (41.4%, 104) of all ambiguity encountered relied solely on these mechanisms rather than phonological, lexical, or syntactic means (see Figure 1). Of those, more than half (54.8%, 57) utilized syllabic mechanisms while about a third (31.7%, 33) utilized morphological mechanisms (see Figure 2). Clearly, it is not just phonemes and lexemes that contribute to the flexibility of the English language, but also syllables and morphemes. Though Ferro–Luzzi briefly mentions the possibility that "double meanings may be achieved by cutting up existing words" (Ferro–Luzzi 1986, p. 267), he considers all instances as lexical and doesn't distinguish between those cut along syllabic vs. morphologic lines. In the case of morphological ambiguity, no particular morpheme seemed to be more prevalent than another, although almost all involved derivational morphemes rather than inflectional morphemes. Since inflectional morphemes by definition carry grammatical information, its lack of use hints at another trend – the relatively infrequent use of syntactic ambiguity as a mechanism in English language pun formation.

**Figure 1: Presence vs. Absence of
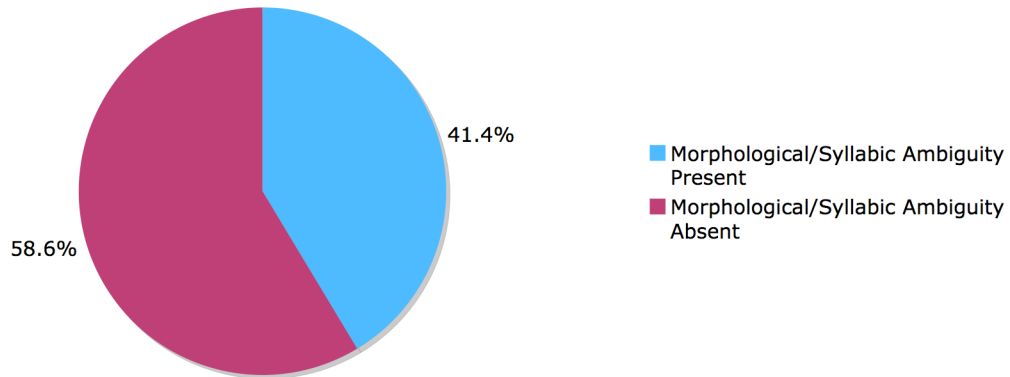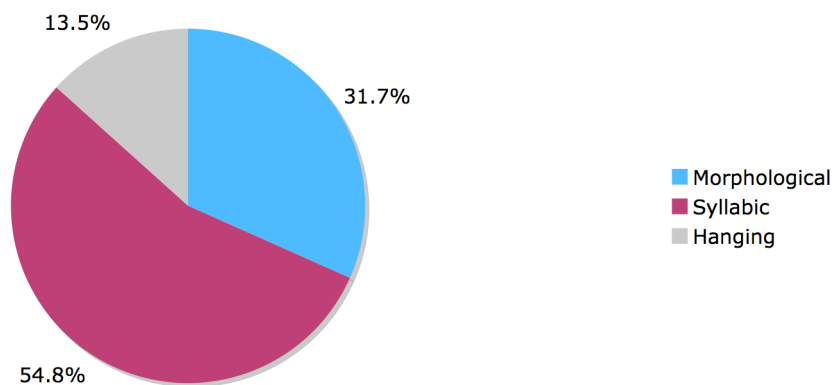Morphological/Syllabic Ambiguity**

41.4%

58.6%

- ■ Morphological/Syllabic Ambiguity
  Present
- ■ Morphological/Syllabic Ambiguity
  Absent

Figure 2: Syllabic vs. Morphological Ambiguity

13.5%

31.7%

54.8%

- ■ Morphological
- ■ Syllabic
- ■ Hanging

Lexical vs. Syntactic

In addition to phonological–lexical discrepancies described above, lexical vs. syntactic ambiguities were sometimes more difficult to assess than initially anticipated. Most of the joke types (phonological, lexical, syntactic) were clear-cut based on the definitions outlined in Chapter 2. However, one other point of contention arose in categorizing a joke as lexical or syntactic: jokes involving homophones that resulted in syntactic ambiguity. Upon first glance, lexical would seem to be the correct categorizations for homophonic puns; after all, these jokes involve two (or more) different word spellings that merely sound the same. However, the approach taken in this

study is to presume a spoken counterpart of all puns analyzed; presumably all the jokes could exist in either a written or spoken medium. Further supporting this approach is the fact that not only does word class change, but two syntactic interpretations could legitimately exist. Therefore, examples such as the following were considered syntactic:

- *A bicycle can't stand alone because it is two-tired.*
- *Stock: Paper was stationary.*
- *The innovative farmer decided to mark off his hoofed mammals. Everyone was impressed at this brand gnu development.*

One other clarification must be made regarding lexical and syntactic ambiguity – word class change is not necessarily indicative of syntactic ambiguity in this study. Bucaria (2004) and Stageberg (1971a) both considered word class change as a sign of syntactic ambiguity. It is misleading, however, to assume that a joke is syntactic if there is no sign of phonological ambiguity and word class change occurs from one interpretation to another. This seemed to be the approach Bucaria took – it worked for the genre of headlines since syntactic sense is usually a requirement for professional publications and the fact that Bucaria eliminated headlines from his data set that exhibited "poor wording" or "editing inaccuracies" (p. 282). Stageberg addressed cleanliness of writing for the purposes of grammar classes and school curriculums, noting "a responsible citizen may at any time have to read or write…such serious communications reports, applications, directives, regulations, policy statements, income tax forms, contacts, wills, scholarship papers, complaints, professional articles, and political statements" in which "a single unintended double meaning can be costly" (1971a, p. 356). Again, Stageberg's intent assumes a certain amount of syntactic clarity to begin with given its more "serious" goals and nature.

But in the realm of puns, syntactic sense is not always a minimum requirement as it is for newspapers and other professional publications. In fact, this study's data often involved puns that were syntactically skewed. Take the following two jokes as examples:

- *Two cows were gossiping. Said one: "I <u>herd</u> it through the bo-vine."*
- *I'm clueless when it comes to the life of Henry VIII. Someone needs to <u>Tudor</u> me.*

These ambiguous instances would be considered lexical because of the double entendre involved with the words *herd/heard* and *Tudor/tutor*. In both cases, the serious sense flows nicely with the rules of grammar, but the humorous sense does not agree syntactically with the rules of English grammar and requires the reader or hearer to stretch their grammatical boundaries in order to enjoy the joke. Bucaria and Stageberg would not have run into instances such as these – Bucaria because he used newspaper headlines that by nature must meet the minimum requirement of syntactic sense for the humor, and Stageberg because of his intent regarding school curriculum. Thus, in their studies word class change equated syntactic ambiguity.

In this study, word class change does not equate syntactic ambiguity unless syntactic sense is made in both interpretations. If it is not, as in the two examples above, the ambiguous instance would be considered lexical.

Joke Type Prevalence and Inter-Author Disparities

Based on the categories outlined in previous chapters and the distinctions mentioned above, phonological jokes were found to be the most prevalent (51.0%) followed by lexical (33.9%), syntactic (13.9%) and alliterative (1.2%) (see Figure 3).

Figure 3: Joke Type
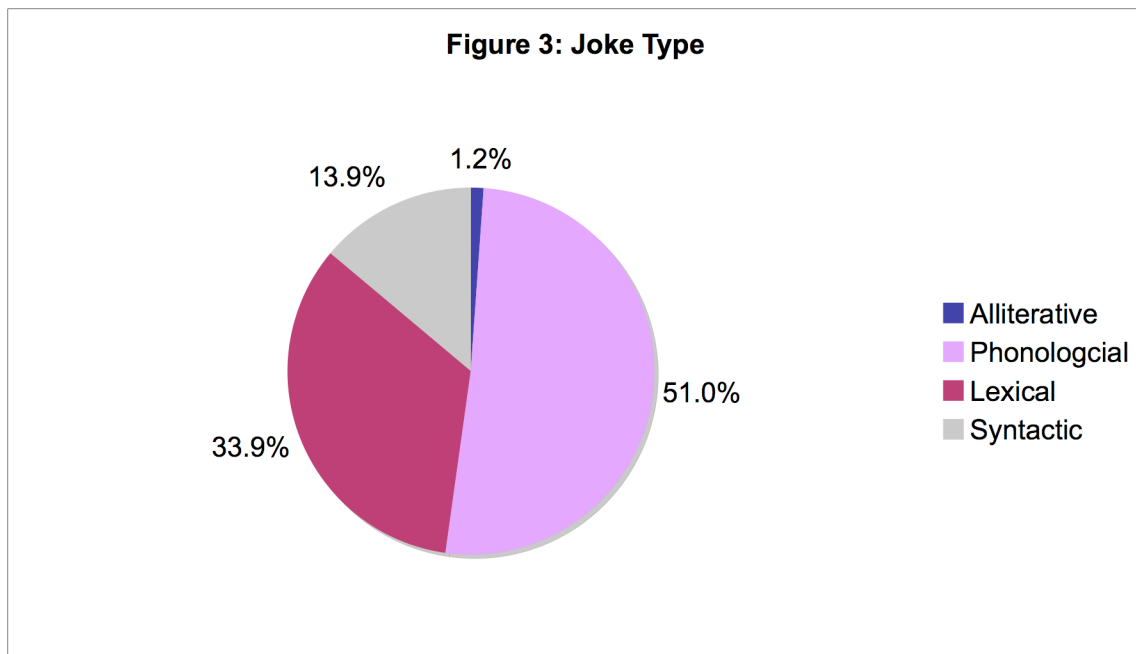
Another goal of this study was to evaluate the disparate findings of Bucaria and Attardo regarding joke type. The results of this study disambiguate to some extent these disparate findings, and seem to fall in between the two extremes presented by Bucaria and Attardo, with the most striking differences appearing in the phonological and syntactic realms (see Figure 4).

Figure 4: Joke Type By Author
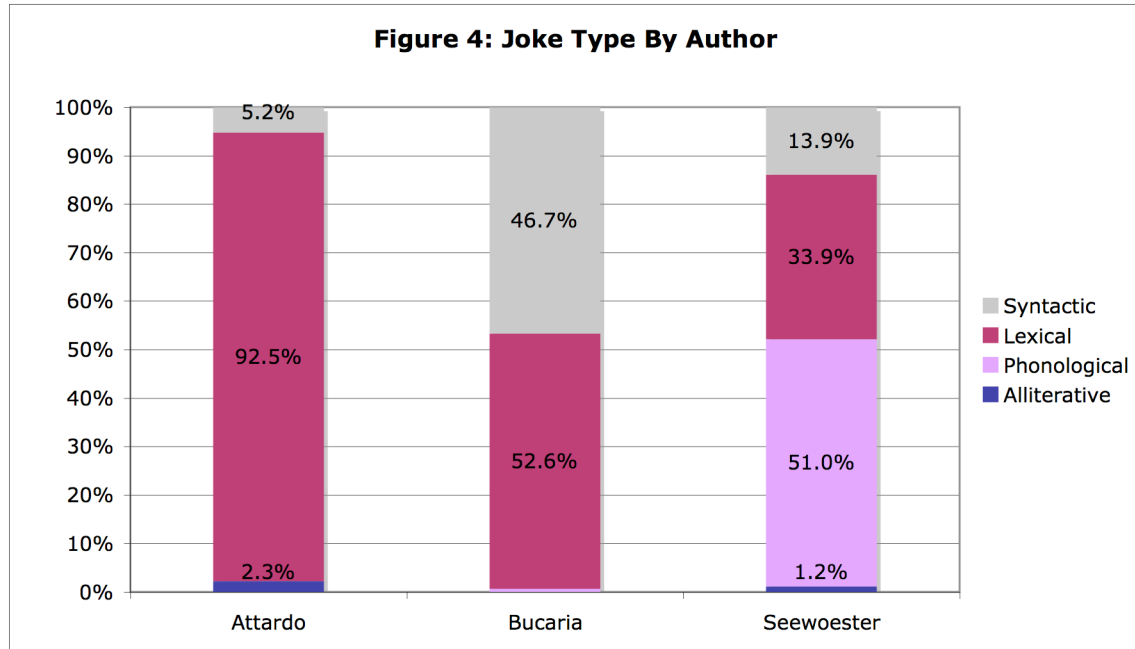
Similar to both Attardo's and Bucaria's findings, alliterative ambiguity composed the smallest percentage of jokes analyzed, and appeared very close percentage-wise to Attardo's findings (Attardo – 2.3% vs. Seewoester – 1.2% vs. Bucaria – 0%). Additionally, instances of syntactic ambiguity corresponded more closely to Attardo's findings (Attardo – 5.2% vs. Seewoester – 13.9%) though less so compared with the alliterative category. Bucaria's findings differed the most from this study in the syntactic realm with 46.7% being syntactic compared with this study's 13.9%.

Regarding lexical ambiguity, 85 (33.9%) instances of lexical ambiguity were found. This finding falls close to Bucaria's 52.6% but falls far from Attardo's 92.5%. Finally, phonological ambiguity seems to exhibit the most disparity. Attardo's study did not account for a phonological category at all while this study took into account phonological ambiguity as proposed by Bucaria. But even when compared with Bucaria's study, results vary drastically. Bucaria only found one instance (0.7%) of phonological ambiguity while this study found 127 instances comprising more than 50% of all ambiguity encountered.

Word Class Frequencies

It is not surprising that nouns and noun phrases were the most often utilized in the creation of language-based jokes (63.7% serious, 71.3% humorous; see Figures 5 and 6). After all, nouns are much more prevalent in the English language than any other word class. In addition, nouns are considered form/open class words, meaning they can accept inflectional and/or derivational morphemes and new words can be added continuously as a language evolves and environments

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and situations change. As a result form/open class words theoretically have an infinite number of members that have potential for use in language-based jokes. Also utilized significantly were V/VP (13.9% serious, 11.6% humorous) and ADJ/ADJP (15.1% serious, 8.8% humorous). Though not as numerous as nouns, verbs and adjectives are also considered form/open classes allowing for much more and varied overall use within the English language. This is reflected in the results of this study as well.

Prepositions and particles, on the other hand, are used negligibly in the creation of language-based jokes. This is not surprising considering these are structure/closed class words which traditionally occur in a single form (i.e. do not accept inflectional or derivational morphemes). In other words, opportunities for structure class words to be confused with other words or phrases is limited by the simple fact that they are rarely changed, manipulated, or altered. Since structure class words are also considered closed grammatical categories, there is a finite (and usually small) number of members, and the entrance of new words into or disposal of established words from these categories is almost unheard of.

Figure 5: Word Class Serious

Figure 6: Word Class Humorous
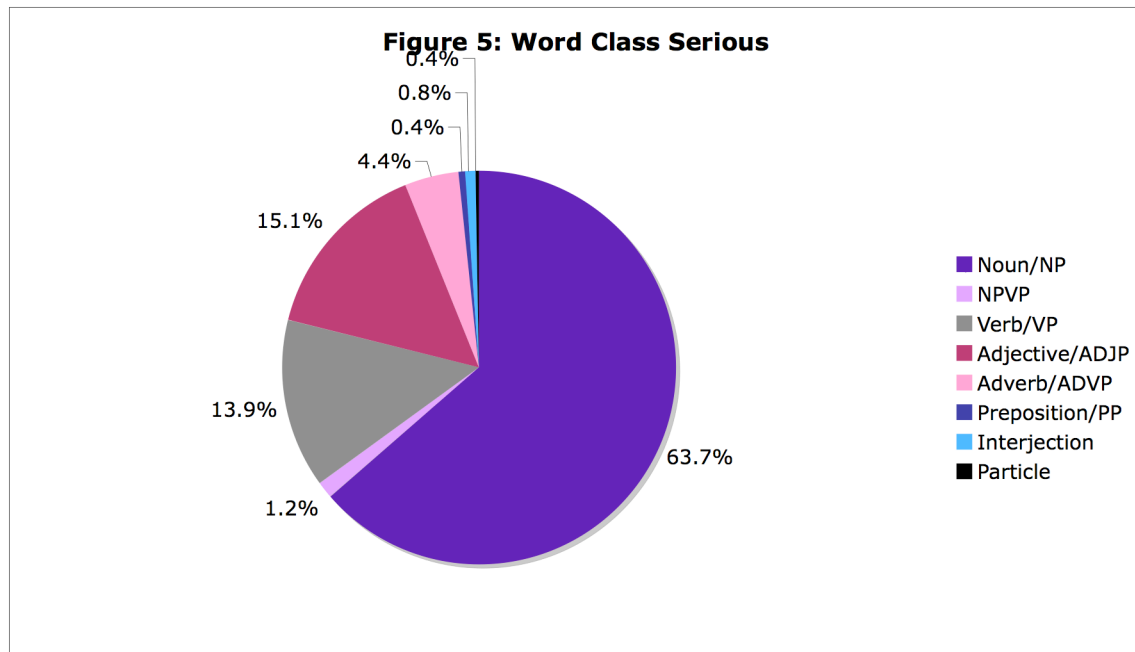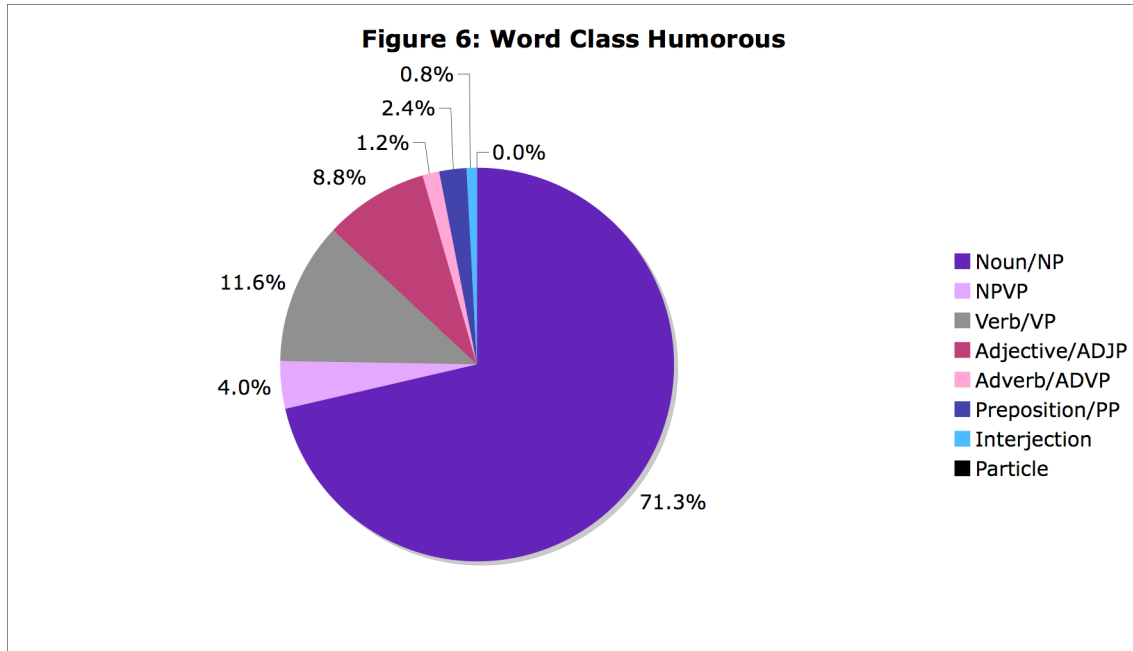
Based on observations involving form/open and structure/closed class status, it would seem that form class words (nouns, verbs, adjectives, adverbs) would play a large role in the creation of language-based jokes for three reasons: (1) they have the ability to change forms by accepting inflectional and/or derivational morphemes; (2) the number of words in form class categories greatly outnumbers those in structure class categories; and (3) form class categories frequently adopt new words into their already large lexicon.

For the most part, form class words dominated the data set described here – nouns, verbs, and adjectives – and are by far the most utilized word classes in the formation of language-based jokes within this study. What is curious about the results, however, is the relative lack of adverbial use. In thinking about the way adverbs are formed and the way they function, it seems as though they would be perfect candidates for puns. First, the *proverbial* (no pun intended) *–ly* ending is also shared with adjectives creating what seems to be an easy route for adjectival/adverbial (mis)interpretations. Second, adverbs can be compared using either inflectional morphemes (*–er*, *–est*) or *more* and *most* just like adjectives. Finally, adverbs easily can be moved throughout the sentence, seemingly giving them more power for syntactic slipups and *punny* plunders. Indeed, it would seem that adverbs exhibit much potential for use in language-based jokes due to sheer numbers, similarity to adjectives, and grammatical flexibility.

In this study, however, adverbs exhibited a disproportionately small number of occurrences within this data set placing them more in-line with structure/closed class word frequencies. And as can be seen in Figure 6, prepositions (a structure/closed word class) outnumbered the open class adverbs in the humorous interpretations. Even more curious is that this result was expected

based on prior studies and the pilot study. For example, neither the pilot test using puns from *www.punoftheday.com* nor Bucaria's study of ambiguity in headlines found *any* instances of adverbial word class in pun formation. Reasons for this seeming disparity have not been explored previously but will be addressed in this study's *Discussion* section.

Word Class Progression

In analyzing word class progression across all types of jokes, the most apparent characteristic is the vast number of word class progressions utilized…36 different types to be exact. The word classes utilized in the formation of puns had no apparent absence of any one part of speech aside from determiners. It is quite apparent that any part of speech is fair game in the formation of language-based jokes, perhaps because "modern English has shed most of the inflectional endings that distinguish one part of speech from another, its words possess the happy facility of changing functions with great ease" (Lederer 1983, p. 161).

But even with the "ease" of word class change that Lederer boasts of the English language, almost all progressions involving word class change appeared less than 10 times within the data set, most hovering at the one to two occurrence mark. The majority of jokes exhibited the same word class in the serious and humorous interpretations. Given the discussion of *Enablers of Word Class Change* in Chapter 3, this comes as a bit of a surprise since N–V ambiguity was expected to play prominent roles in pun formation. For the purposes of this study, we will explore the most prevalent word class progressions (those occurring 10 or more times) by joke type category (see Figures 7 and 8).

Figure 7: Word Class By Joke Type

Figure 8: Word Class Progression by Joke Type
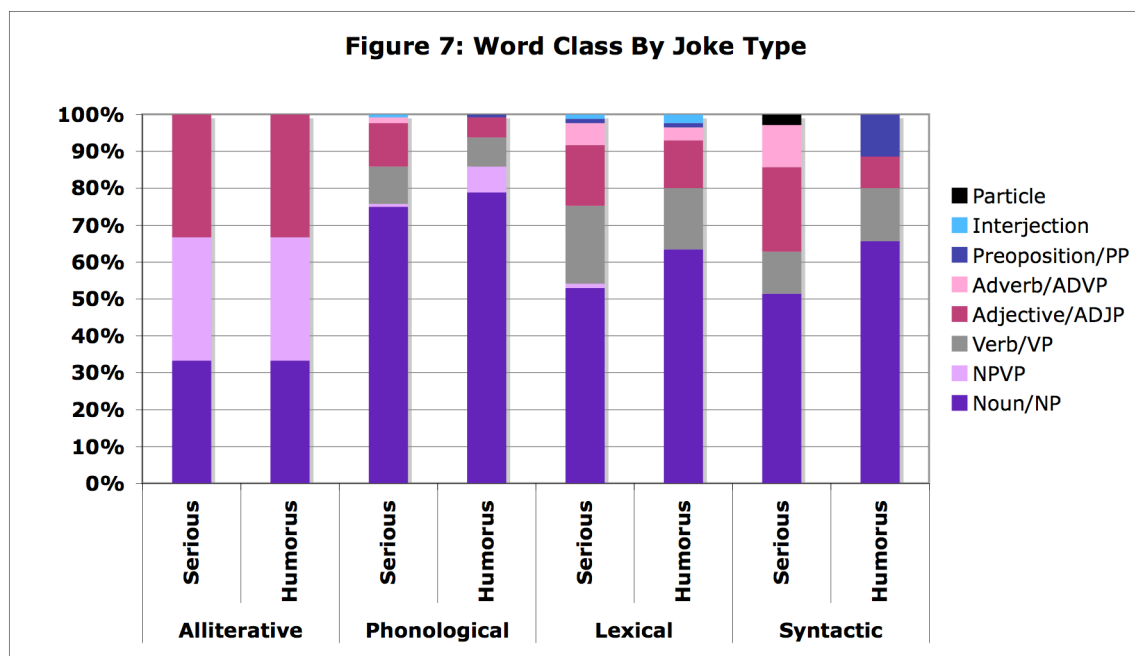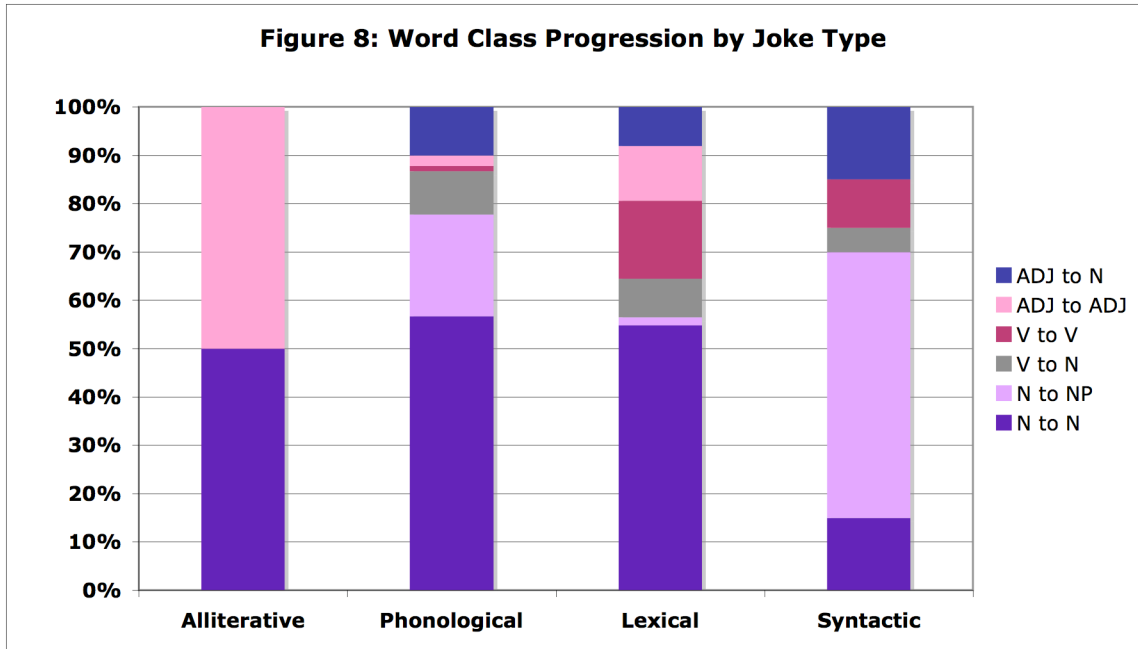
Alliterative Jokes

As stated previously, the mechanism causing humor in alliterative jokes is the unexpected repetition of sounds. Keeping this in mind word class progression is expected to play little if any role in the formation of alliterative jokes, and we see this reflected in the results. What is curious, however, is all three alliterative cases cited in this study made sense syntactically. This is not always the case in phonological jokes or lexical jokes. Therefore, based on this data, syntactic sense seems prerequisite for alliterative jokes to work. However, this observation should be taken with caution and left for future studies to explore due to the overall paucity of alliterative instances in this study (only three out of 251).

Regarding word class progression, two of the three alliterative jokes exhibited dominant progression types (more than 10 instances overall). Specifically, N to N and ADJ to ADJ progressions with the third exhibiting NPVP to NPVP progression. The fact that word class does not change for alliterative jokes is not surprising. After all, alliterative jokes depend on words maintaining their originally intended meanings while utilizing similar sounds in sequence for its humor. In other words, it is the informal violation of sequential sound toleration that causes the humor.

Of note is the threshold for number of repeated sounds in order to create an alliteratively humorous string. In two of the three cases, only two sound repetitions were required for the humor. In the third, the joke was actually a progression of a large number of rhymes, all of which started from a mere two-word alliterative phrase. (*What do you call a donkey with three legs? A wonky donkey.*) So as it seems, very few sound repetitions (two to be exact) are required in

the creation of alliterative jokes. Again, these results must be taken with caution due to the lack of alliterative jokes found in this study and other factors that may contribute to the humor.

Phonological Jokes

For the phonological joke type category there appeared few instances of word class change (less than 20%). This is not surprising since the crux of phonological jokes lies at the level of sounds and not words. Lack of word class progression is reflected in the results, with the most prevalent progression being the N to N/N to NP same-class progression (54.7%). ADJ to N (7.0%) and V to N (6.3%) progressions were the next most prevalent. As seen in the results, instances of word class change never exceeded 7.0% for any progression and does not appear to be a major tactic in the creation of phonological jokes.

As mentioned previously, divisions along syllabic (vs. morphological[15]) boundaries that produce alternative interpretations are considered phonological jokes. In these cases, only parts of the word at their syllabic divisions are utilized maintaining the character of the original word class. This joke-making strategy accounted for 53.9% (69 instances) of all phonological jokes found in this data set. Looking more closely at these jokes another trend occurs. Of the 69 cases, 61 (88.4%) of the jokes required the syllables be taken together in the serious interpretation while the humorous interpretation required each syllable to be interpreted on its own merit. Take the following jokes for comparison:

- *Homer was blind, which makes his <u>'Oughta-see'</u> so impressive.*
- *My sister was trapped under a pile of old Dutch coins. In fact it was so heavy it almost <u>guilder</u>.*

The first joke reflects the most prominent trend in which the serious interpretation requires all syllables be taken together (*Odyssey*) and the humorous interpretation requires a separated syllabic interpretation (*Oughta-see*). The second joke reflects the less prevalent trend in which the serious interpretation is taken separately (*Killed her*) and the syllabically-united humorous interpretation (*guilder*) takes all syllable together. In looking at these examples and the overall results, a curious trend occurs: most of the time (88.4%), English language speakers unite the syllables for the serious interpretation; the humorous or nonhabitual interpretation comes when the syllables are taken separately.

Hanging syllables/morphemes (discussed previously in *Category Discrepancies*) also showed a comparable trend. In these jokes, one interpretation used all the syllables or morphemes while the other used the alternative meaning of only one syllable or morpheme, leaving a "hanging" component. Fourteen jokes exhibited hanging components in the humorous interpretation. To illustrate, let's look at the following examples:

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[15] Of the phonological jokes, there were 10 jokes which were divided along morphologic lines; but due to other phonological differences (e.g. *untreatable* vs. *untweetable*) they were labeled as phonological jokes and will be considered with the data regarding syllabic divisions here.

- *Do old-time hockey players get <u>gerihat-tricks</u>?*
- *What did the announcer scream when the wooden model of the Hindenburg burst into flames? "Oh, the <u>mahogany</u>!"*

In the first joke above, all syllables are taken together for the serious interpretation (*geriatrics*); while the humorous, nonhabitual interpretation requires each syllable be taken on its own merit for the joke to occur. Only two of the syllables are used and two are left hanging.

For comparison, the second joke provided above represents the less prominent trend in which the humorous interpretation takes all syllables together, while the serious leaves one or more syllables hanging. This tactic was found in only 2 of the 14 hanging morpheme instances found in this study.

Also of interest is the appearance of the word class progressions N to NP (14.8%, 19 jokes), N to VP (4.7%, 6 jokes), and N to NPVP (5.5%, 7 jokes). These progressions are almost exclusively characteristic of phonological jokes. Rather than relying solely on similar sounding word (rise, rice; carpe, carp), phonological jokes depended greatly on the united syllables of longer words sounding like legitimate, lexically bound shorter words that form humorous phrases (*mastectomy*, *ma-stuck-to-me*; *leprechaun*, *leper-con*).

For these jokes, syllabic division of one word creates a humorous phrase as in the following examples:

- *What tragedy occurred when the discoverer of radium served her pet a caffeinated beverage meant for equines? <u>Curie horse-tea</u> killed the cat.* (N to NP)
- *Do violinists sleep around? Yes, they <u>straddle various</u>.* (N to VP)
- *My mother-in-law got her mammaries replaced by suction cups. Now whenever she leans in for a kiss, I get <u>ma-stuck-to-me</u>.* (N to NPVP)

These progressions greatly outnumber progressions of the opposite sense: NP to N (3.1%, 4 jokes), VP to N (1.6%, 2 jokes), and NPVP to N (0.8%, 1 joke). In other words, it is much more likely for syllables to be taken together as one word in the serious sense and broken up into syllables for the nonhabitual/humorous interpretation.

Another notable characteristic of not just phonological jokes but all joke types is dependence on common phrases (i.e. phrases in which the words involved are typically and habitually taken together in the form of common or hackneyed phrases). Take the following jokes as examples:

- *The surgeon really did not know how to perform quick surgeries on insects, but he did one <u>on the fly</u>.*
- *NED: You know, it's really a crime to let untreated steel get wet. ED: Really, that's fascinating... NED: Yes - once I was involved in a hit-and-run <u>oxidant</u>, and it led to my <u>arrust</u>.*

As we see in the above two jokes, familiarity with certain words being used together in sequence assists in creating the double meaning. Even more curious is this use of familiar

phrases occurred not only in phonological *but all joke types.* Almost 25% (62) of all jokes in this data set utilized this tactic (see Figure 9). In addition, the percentage of each joke type in comparison to the total number of jokes utilizing common phrases was inline with the overall percentage of each joke type when compared to the entire data set (see Figure 10). This highlights the fact that the common phrase tactic is not only prevalent in language-based joke formation but equally used by each joke type in relation to its overall presence in this data set. The dependence on common phrases for serious interpretations is the only finding that transcends all joke

types.

Figure 9: Common Phrase Use

Figure 10: Common Phrase Use by Joke Type
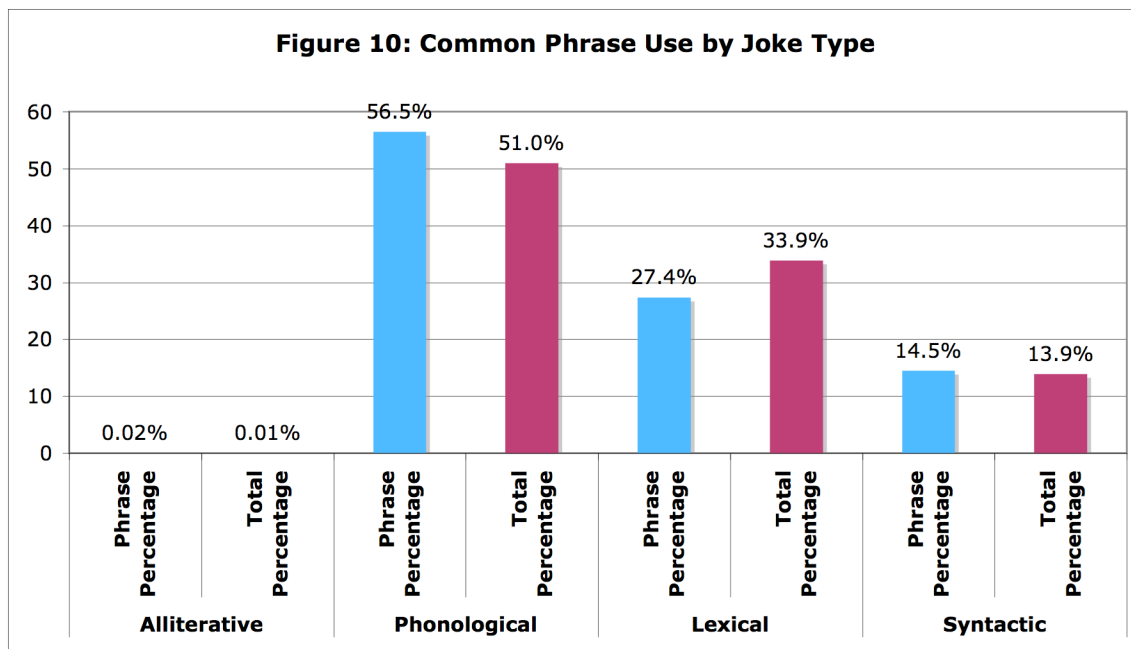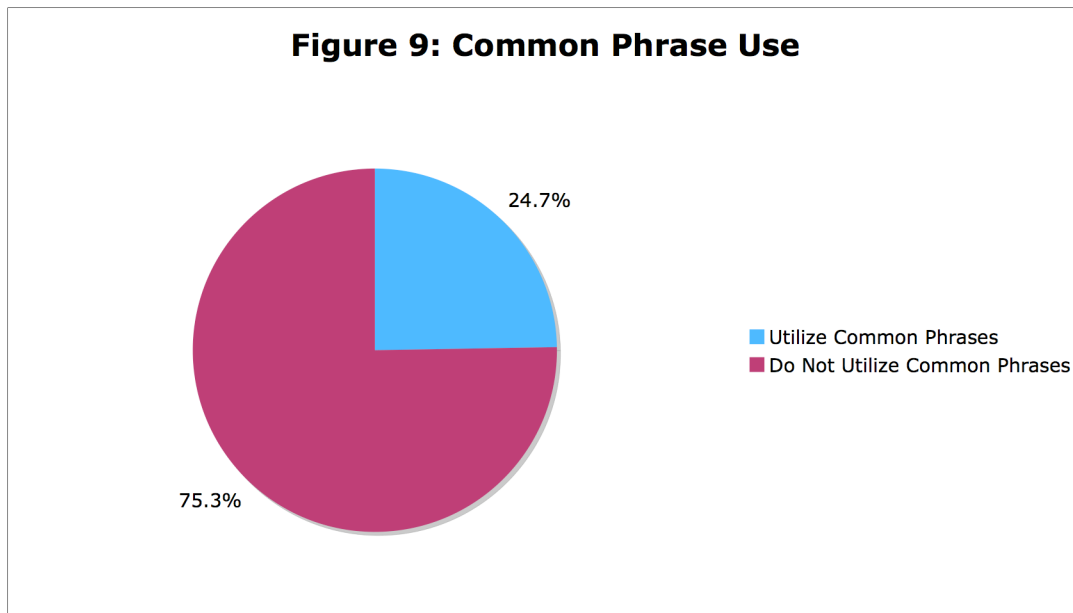
Lexical Jokes

The most prevalent word class progressions in lexically-based jokes involved N to N ambiguity, V to V ambiguity, and ADJ to ADJ ambiguity (57 instances, see Figure 8). This is not surprising given that the nature of lexically-based puns is to play on the double meaning of a particular word, the easiest presumably being homophones, homonyms, and polysemes of the same word class. These results are also in-line with Bucaria's study (2004) of humorous headlines in which he found N and V same-class ambiguity to be the most prevalent in lexical jokes. Additionally, 67.1% of the lexical jokes in this study utilized the open class word categories for same class ambiguity (N to N, V to V, ADJ to ADJ), and again we see an apparent paucity of adverbial use.

But what isn't immediately apparent in Figure 8 is the presence of word class change within this study's lexical category accounting for almost a third (28 instances, 33.0%) of all lexical mechanisms in the data set. This is a departure from Bucaria's results. In Bucaria's study, word class change was reserved for instances of syntactic ambiguity; while same-class ambiguity was considered lexically ambiguous. This works for Bucaria because a requisite for newspaper headlines is syntactic sense. However, in jokes, syntactic sense does not have to be made in order for the joke to occur. As a result, a number of instances of word class change were found in the lexical joke category. Take the following as examples:

- *Two cows were gossiping. Said one: "I herd it through the bo-vine."* (V–N, Seewoester)
- *British Left Waffles on Faulkland Islands.* (V–N, Bucaria)
- *The surgeon was unfamiliar with the new leg operation. It was too hip for him.* (ADJ–N, Seewoester)
- *Marijuana Issue Sent to a Joint Committee.* (ADJ–N, Bucaria)

Both of Bucaria's examples above are considered syntactic ambiguity due to a legitimate syntactic shift from one interpretation to another. In this study, we note the nonsensical grammar that occurs with the word class shift. With language-based jokes (rather than headlines) word class change plays a prominent role in the lexical category, and syntactic sense is not a requirement.

Of the 28 instances in which word class change occurred, not one progression substantially dominated, though ADJ–N (5 jokes, 5.9%) and N– ADJ (4 jokes, 4.7%) ambiguity were the most prevalent. It seems as though most word class progressions are fair game in lexical jokes due to the fact that syntactic sense is not requisite.

The next point of interest in lexically-based jokes may seem familiar. Like phonological jokes that utilized syllabic divisions as a joke-making strategy, many lexical jokes rely on morphological divisions[16]…the main difference being that each syllabic division is actually morphological in nature and exhibits a lexical value. Of the 85 instances of lexical ambiguity, 23.5% (20 jokes)

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[16] As you may recall, whether a joke of this nature is considered phonological or lexical is dictated by whether the division is based merely on syllables (phonological) or meaningful morphemes (lexical).

utilized this strategy to produce alternative interpretations. Of these jokes, 85% (17 jokes) required the morphemes be taken together in the serious interpretation while the humorous interpretation required one or more morphemes to be interpreted on its own merit. Take the following jokes as examples:

- *What creature staked out a bathroom, lustily awaiting a gazelle? The <u>loo-tenant</u>, come-on deer.*
- *There was one absentee PM who may as well have been locked in a plastic bin. The other MPs would sit around inquiring, "<u>Tupper - where</u>?"*
- *Why is the man who invests all your money called a<u> broker</u>?*

The first joke exhibits the dominant trend, in which the serious, habitual interpretation requires that the morphemes be taken together (i.e. *lieutenant*). The humorous interpretation, on the other hand, requires each morpheme to be taken on its own merit (*lieu* [*place*] *tenant* [*hold*]) in order for the double meaning of *lieu–loo* to be realized. Again, like in our discussion of phonological jokes, holistic processing plays a prominent role in the habitual interpretations of these jokes. The second joke represents the three exceptions to the rule, in which the habitual/serious interpretation requires each morpheme to be taken on its own merit (*Tupper–where* vs. *Tupperware*).

The third example above reflects another trend that is realized in the creation of both lexical and phonological jokes – *morpheme inflation*.[17] *Morpheme inflation* applies the meaning of a particular morpheme to a word that either (a) cannot grammatically accept it, or (b) already has another meaning associated with the morpheme and main word when taken together. It can be used as a tactic in both phonological and lexical jokes (though more prevalent in lexical) and accounts for 14.8% (19 jokes) of all ambiguous instances in this data set. Of the morphemes used, *–ed* (7 instances), *–ly* (3 instances), and *–er/or* (3 instances) appeared most frequently, with all others only appearing once. Take the following jokes as examples:

- The Scotsman's lover cheated on him. How did he feel? *<u>Ewesed</u>*.
- *<u>A minuscule</u> of sub-atomic particles.*
- *<u>Exposed</u>*…A retired model*.*

In the first pun, we see an example of ungrammatical acceptance of a legitimate morpheme. The pun plays with the morpheme *–ed* that is often used to transform verbs to past participles or adjectives. It requires the joke recipient to ignore the grammatical soundness of the statement (despite the fact that the *–ed* gives information on the role the noun *should* play in the joke) in order for the humorous interpretation to be realized. It also requires that the rules for past participle/adjective formation be stretched (i.e. adding *–ed* to the end of a plural noun does not create a past participle/adjectival form of the noun). In both the serious and humorous interpretation of this joke, all morphemes are used with meaningful purposes, but the humorous

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[17] Stump (1991) calls this same phenomenon morphosemantic mismatch.

instance cannot grammatically accept the –*ed* causing the joke to syntactically not make sense. Though this tactic can be used in a number of ways, Tom Swifty jokes pay tribute to this tactic. Based on a fictional children's book character, this joke type "is a play on words that derives its humor on a punning relationship between the way an adverb describes a speaker, and at the same time refers significantly to the context of the speaker's statement" (*www.go.to/puns*) – *"I needn't have been cloned," said Dolly sheepishly, "my family used to do exactly what I did anyway!"*

The second joke in the above examples is similar to the tactic just described except it involves the free morpheme "a(n)" instead of a bound morpheme. In the second example, we see an adjective being used as a noun as is indicated by the use of "a" before it and its placement in the phrase. This is a common tactic in play-on-words known as collective nouns or terms of venery. Originating from the English hunting tradition days, these words describe a group of objects (usually animals) based on their characteristics or habits of life (*www.wikipedia.com*) – *a gaggle of geese, a pride of lions*.

The final tactic involved in *morpheme inflation* takes a word whose separate component parts have legitimate morphological values but when taken together exhibit a legitimate meaning (the serious interpretation) unrelated to the component parts. We see this tactic in the third joke. In its traditional sense, the base verb *expose* involves two morphemes: *from ex- + ponere to put, place (www.m-w.com).* It is then inflected with the verbal morpheme –*ed*. Despite the separate meaning of *ex–* (*former*) and *pose* (*to assume a posture or attitude usually for artistic purposes*), the meaning of these two morphemes when taken together has evolved (*to cause to be visible or open to view*). The joke, however, plays on these historically separate morphemes, which have since taken on a new meaning together. As a result we see the habitual interpretation of exposed transformed into a humorous interpretation when the morphemes are taken separately (i.e. *a former poser*).

Syntactic Jokes

In the case of syntactic ambiguity, the data that requires the most explanation are situations where the word class did not change. Though stated previously that word class change does not automatically designate a joke to the syntactic realm (allowing lexical or phonological jokes to also exhibit this characteristic), it is curious when word class change does not occur in syntactic jokes. Lack of change within syntactic jokes would then indicate another factor at hand. For example, three of the syntactic jokes exhibited N to N ambiguity. In all cases, it involved the word "it" as an ambiguous referent, as in the following example:

- *We all know about his famous bath, but what did Archimedes say his first time before a urinal? "Urethra! I've found it!"*

V to V ambiguity also requires a bit of explanation. In both V to V cases, the V was followed by a "self" pronoun:

- *Then there was the guy who fell into a vat of molten optical glass after drinking too much.... Just two glasses, and look what a spectacle he made of himself.*
- *I can't really see myself without eyes.*

The V to V ambiguity involved a figurative vs. a literal polysemic relationship with the "self" pronouns playing an important factor in the ambiguity. Though the verb did not change word class in this situation, we again have a case of an ambiguous referent. In the first joke above, it is unclear whether *himself* is serving as the object of a preposition in a reflexive capacity or as an emphatic pronoun referring back to the subject of the sentence. Oaks identifies "the grammatical relationship of the pronoun '*myself*'" as "other [non-class related] types of structural ambiguity that occur in jokes" (1994, p. 379).

The second joke above exhibits a similar strategy, confusing *myself* as the object of the verb in a reflexive capacity or as an emphatic pronoun referring back to the subject of the sentence. In both cases of same class ambiguity explained above, we can see that another syntactic factor (i.e. ambiguous referents) dominated in the creation of ambiguity within the jokes.

Another trend found in the realm of syntactic ambiguity (and the most frequent trend found in this category) was confusion between N (modifier) and N, which was represented in this data as N (compound) to NP ambiguity. Take the following two jokes as examples:

- *Stock Report: Mining equipment hit rock bottom.*
- *It doesn't matter what temperature a room is. It is always room temperature.*

Taha identified a number of subcategories of this type including N (compound) to NP ambiguity, which is the category dominating this syntactic data set. Eleven instances of N (compound) to NP ambiguity were found, comprising over 50% of the syntactically ambiguous elements found in this study. As Taha sees it "the meaning of these uses [N compound or NP] is quite different from each other. In each case, the compound noun has a derived meaning, whereas the noun phrase can always be paraphrased as a ____which is ___" (1983, p. 255). What is curious about this finding is that in almost all instances the serious/habitual interpretation was as a compound noun, while the humorous NP interpretation required English language speakers to take each component of the compound on its own merit.

Syntactic jokes also exhibited ADVP–PP ambiguity more so than any other category (four times), with all the ADVP appearing in the serious sense of the joke. Take the following two jokes as examples:

- *The surgeon really did not know how to perform quick surgeries on insects, but he did one <u>on the fly</u>.*
- *I know the correct way to scalp people, but I can't think of it <u>off the top of my head</u>.*

Both jokes have an ADVP to PP progression. Notably, the serious/ADVP interpretations are figurative in nature only making sense when the full phrase is taken into account. The humorous/PP phrase interpretation, on the other hand, requires each portion of the phrase to be taken separately and on its own merit. Similar to the discussion of N (compound) to NP progression, it seems when English language speakers are given the chance to interpret groups of words as a whole they will.

Similar characteristics are found with verb particle use in syntactic jokes. Take the following joke as an example:

- *I used to want to be a gold prospector, but it didn't pan out.*

In its serious sense, the two words *pan out* are taken together to mean *turn out; succeed*. While the humorous interpretation requires us to take the verb *pan* (*to yield precious metal in the process of panning*) and *out* (*into groups or shares*) separately. Again, we see the serious/habitual interpretation of the joke requires taking the two words together as a V–V (part) combination. Considering only one joke utilized a particle, it would be unwise to draw any hard and fast conclusions in this regard. However, when paired with the ADVP–PP and compound noun results, a bit more significance emerges.

Chapter 6: Discussion and Conclusions

Based on the results of this study, a number of new findings as well as departures from previous studies have emerged.

Syllabic and Morphologic Mechanisms for Joke Classification

Goals 1 and 3 called for exploration of syllabic and morphologic mechanisms in joke formation as well as new ways to categorize jokes with marginal characteristics. As evidenced in the results section, the use of syllabic and morphologic divisions seem to play key roles in the formation of language-based jokes.

Previously undiscussed in the joke literature is the use of syllabic and morphologic mechanisms for the execution of puns. Rather than basic categorizations on phonemes (sounds) and lexemes (words) alone, this study uncovered a need to look in between these linguistic attributes and pay tribute to syllabic and morphological mechanisms as well. As a result, syllables (groups of phonemes) and morphemes (smallest linguistic units that have semantic value; not necessarily words) were used to determine phonological and lexical categories respectively for marginal cases in this study. Hanging syllables/morphemes (one interpretation used all the syllables/morphemes while the other used only one syllable/morpheme) also were positioned in the phonological realm. This is due to the "hanging" sound or morpheme, which does not contribute to both possible meanings of the joke.

Syllabic and morphological mechanisms accounted for almost half (41.4%) of all jokes from this data set. Given the overwhelming presence of this syllabic/morphological joke-making mechanism, further research regarding the mechanics of syllabic/morphological use in puns should be conducted.

Inter-Author Discrepancies

In addition to adjustments in categorization methodology, goals 2 and 3 called for results from previous studies to be compared and inter-author discrepancies to be explored. Both Bucaria and Attardo conducted studies similar to this one with regard to joke types (alliterative, phonological, lexical, syntactic). Bucaria's was the more recent study (2004) while Attardo's (1994b) was the flagship study of sort, analyzing thousands of jokes and placing in the academic limelight joke categorizations based on linguistic qualities. However, when this study's results are compared with both Bucaria's and Attardo's, significant discrepancies appear across the board. In line with goals 2 and 3 of this study, a number of reasons for these discrepancies have been identified.

Genre

Probably the most apparent discrepancy when comparing results between authors is the absence of phonological and alliterative ambiguity from Bucaria's study and the large percentage of syntactic ambiguity. Bucaria's study focuses only on ambiguous/humorous headlines, and he acknowledges "that differences exist between the humorous mechanisms of the register of jokes and that of headlines" (2004, p. 280). In addition, "the language of headlines makes use of linguistic and stylistic devices that are specific of this genre and are imposed by the constraints and functions of newspaper writing in general" (Bell 1991 and Reah 1998 as cited by Bucaria 2004, p. 284). Syntax reduction is one of these genre-specific devices utilized in newspaper headlines and focused on by Bucaria. In other words, markers that indicate grammatical value are omitted allowing for more possibility of confusion in structural interpretations. Klammer, Shulz, and Volpe (2000) acknowledge this mechanism as well: "you may encounter ambiguous constructions, especially in headlines, where structural clues are often omitted to achieve brevity" (p. 361; examples found pp. 59, 143, 361, 381, 397, 405). Noun/verb (p. 361), gerund/participles ambiguity (p. 381), as well as transitive phrasal verbs with direct object modifiers and intransitive verbs followed by prepositional phrase modifiers (pp. 404-405) are all fair game in creating structural vagueness according to Klammer, Shulz, and Volpe (2000). Therefore, syntax reduction (and the resulting lack of structural clues) specific to the genre of newspaper headlines may account for the large percentage of syntactic jokes in Bucaria's results and the relative paucity of examples in the other three categories.

Another discrepancy possibly related to genre was the entire lack of alliterative jokes in Bucaria's study. Bucaria explains that the "the third category of alliterative jokes does not apply to this corpus" (2004, p. 286). This genre-specific deletion accounts for the paucity of alliterative jokes in Bucaria's data set. Why alliterative jokes are not applicable is not further delineated. What is interesting, though, is Bucaria (citing Reah 1998) acknowledges the "deliberate use of rhetorical devices, such as alliteration and rhyme, to the creation of sensational phrases to attract the readers' attention" (2004, pp. 280-281). In the end, it is unclear whether no alliterative headlines were encountered or if they were eliminated due to "inapplicability" to the corpus.

Finally, the practically non-existent appearance of phonological jokes in Bucaria's study contradicts the results of this study. Presumably, the potential for making phonologically-based puns in newspaper headlines should be the same as for jokes. However, the existence of headlines in a primarily written format with little or no intention of a spoken counterpart may make ambiguities based on sounds (phonological and alliterative) less likely. Similarly, lexical and syntactic jokes (which dominate Bucaria's results) often employ double meanings without spelling or aural differences; phonological jokes always involve one or both of these characteristics. Jokes of a phonological nature may be avoided given that the genre is a professional one that intends to be taken seriously, and misspellings would likely be caught in the editing process.

Lexical and syntactic ambiguity in print media is a bit harder to catch from the editing standpoint, which may also account for the large percentage of both in Bucaria's study.

Joke Elimination

Which jokes were eliminated from the data set could also account for the lack of phonological/alliterative jokes in Bucaria's results. Bucaria eliminated instances he considered to be "editing inaccuracies;" therefore, a joke may have been eliminated due to inaccurate grammar but still may have shown ambiguity of a different nature as we see in the example he provides: *Governor's penis/pen is busy*. By the standards of this study, this headline would not be eliminated but considered a phonological joke (see previous discussion of syllabic/morphological ambiguity). Also, as mentioned before, Bucaria may have eliminated alliterative jokes from his data set due to the "inapplicability" of alliterative jokes to his corpus; though specifics of this "inapplicability" and the actions taken were not delineated.

Classification

One of the main reasons for discrepancies between Bucaria's and the other two authors' results could be related to genre as discussed previously. But the differences between Seewoester's and Attardo's results cannot be accounted for in this manner. Both gathered their data from collections of jokes (not headlines), and both accounted for referential vs. language-based jokes either via deletion prior to data analysis (Seewoester) or inclusion in a separate referential category (Attardo), so only language-based joke with no particular genre focus were utilized.

Of interest, however, are two points of classification in which Attardo differs from both Bucaria and Seewoester. First, there is an absence of a phonological category altogether. Though Attardo accounts for an alliterative category, which involves "the unexpected and exceptional repetitions of a sound or group of sounds in a given stretch of discourse" (Attardo 1994, p. 36), he does not provide a separate phonological category to account for ambiguity at the sound level.

This absence of a phonological category leads to a second issue: most "phonological" jokes were considered "lexical" in Attardo's results. As Seewoester and Bucaria approach it, phonological jokes depend on "the modification of a sound, a unit smaller than the word" (Lew 1996, p. 130), and they consider the sound level to be "the minimal string containing the part that varies between the two readings" (Lew 1996, p. 127). As an example, the following joke would be categorized as phonological by Seewoester and Bucaria:

- *Best wishes from Mama and Pauper* (Attardo 1994b, p. 34).

Attardo, on the other hand, distinguishes different types of lexical ambiguity: one "based on identical phonetic construction (for instance, "high" and "hi") and one in which there is a phonetic

difference of some sort between the first and second sense/lexeme; that is, the lexical items are paronyms "so that both of the 'senses' are apparent to the reader/hearer, though the 'words' are not phonetically identical" (1994b, p. 34). Where Seewoester and Bucaria would label the above joke as phonological, Attardo (despite mentioning several times the phonological dependence of this particular joke) labeled it as lexical.

While acknowledging that the above example is phonetically skewed and defining paronyms as words that are phonetically similar but not identical (1994), Attardo still places jokes based on paronyms into the lexical category making his approach a bit incongruous. This study, on the other hand, categorizes jokes as proposed by Lew which takes into account each linguistic level on its own accord: "One way to determine the level of structure at which the ambiguity is situated is to identify the minimal string containing the part that varies between the two readings" (Lew 1996, p. 127). In other words, does the linguistic ambiguity depend first and foremost on variance in sound (phonological), variance in meaning (lexical), or variance in sentence structure (syntactic)? Had Seewoester approached classification in the same manner as Attardo, phonological category results would have been much closer (Attardo 92.5% vs. Seewoester 84.1%).

One other issue of classification is reflected in the differences in syntactic percentages. As mentioned above, syntactic differences between Bucaria and the other two authors could be accounted for based on genre (discussed previously). However, what accounts for the differences in syntactic percentages between Attardo and Seewoester is not immediately apparent. Attardo sees syntactic ambiguity being "based on the ambiguity not of any single lexical item, as in lexical jokes, but of (parts of) the sentence at the syntactic level" (p. 35). The only example Attardo offers is one involving prepositional phrase attachment:

- ▪ *I killed a huge lion in my pajamas. How did the lion get into your pajamas?* (Pendleton 1987, p. 22 as cited by Attardo).

Attardo does not mention word class change as a factor in syntactic ambiguity and does not provide any other hints as to what he might consider syntactic ambiguity. Attardo may have taken a more traditional approach to the syntactic category seeing prepositional phrase attachment (Franz 1996, Lew 1996, Oaks 1994, Stageberg 1971, Taha 1983), relative clause reduction (Franz 1996, Stageberg 1971), modifier attachment (Oaks 1994, Taha 1983), pronoun antecedent (Oaks 1994, Taha 1983), and anaphoric referents (Attardo 1994a) as major contributors to syntactic ambiguity. Taking this approach often situates word class change into the lexical category. Seewoester and Bucaria, on the other hand, see word class change not only as a lexical mechanism but also having potential syntactic underpinnings as well. Unfortunately, the differences in results between Seewoester and Attardo must remain speculative at this time due to Attardo's vague explanation of his syntactic category.

Syllabic–Phonological vs. Morphological–Lexical Distinctions

As discussed in more detail previously, one of the gray areas involving joke type categorization involved units smaller than words but larger than sounds, specifically syllabic and morphologic ambiguities. Based on the new categorizing method delineated previously, divisions along syllabic boundaries that produce alternative interpretations would be considered phonological, while divisions along morphologic boundaries that produce alternative interpretations would be considered lexical. This distinction is in response to Merriam–Webster's definitions that place morphemes more in the lexical realm (lexicon is defined as "the total stock of *morphemes* in a language"; *www.m-w.com*) and syllables in the phonological realm (syllable is defined as "a unit of spoken language that is next bigger than a speech sound"; *www.m-w.com*).

Given that this characteristic has not been distinguished before, it could have contributed to discrepancies between Seewoester's and Attardo's results. Specifically, Bucaria eliminated such jokes involving "editing inaccuracies" that would have been considered phonological in this study. For example, the following joke would be considered phonological according to the syllabic/morphologic approach taken by Seewoester, but was eliminated by Bucaria:

- *Governor's <u>penis/pen is</u> busy* (2004, p. 282).

In this study, a similar joke was encountered and was not eliminated but labeled as phonological:

- *When the donut married the roll of toilet paper, the priest said: "Be fruit-filled and <u>multi-ply."</u>*

It is impossible to tell, however, how much this new categorization would have affected Bucaria's results as he did not provide a list of the jokes eliminated from his study. It is presumed to provide at least some explanation for the discrepancies since his "elimination" joke example would be relevant to the discussion above.

Homophones and Syntactic Ambiguity

As discussed in more detail previously, Seewoester considered a number of jokes based on homophony as syntactically ambiguous. This would be a departure from other authors' interpretations of joke type categorization as no other examples of homophonic–syntactic jokes were found in the literature; most would be categorized as homophonic–lexical. As an example, *A bicycle can't stand alone because it is two-tired*, was considered syntactic by Seewoester (whereas other authors may have labeled it lexical). The approach taken in the study, however, is to presume a spoken counterpart of all puns analyzed; and in its spoken form "two" and "too" would have the same phonetic representation and differing lexical interpretations *that both make sense syntactically* resulting in two legitimate syntactic interpretations.

Though this is a departure from the current literature, Seewoester's joke type percentages would only change minimally if she had taken this more traditional approach (i.e. 13.9% vs.

10.8% for syntactic and 33.9% vs. 37.1% for lexical). This new interpretation seems to skew results negligibly in comparison to the other authors' results.

Lack of Adverbial Use

Part of goal 1 was to explore patterns of word type use in language-based jokes. In doing so, one major trend regarding word class use became blatantly apparent: the lack of adverbial use in language-based jokes. Given the status of adverb as "open class" – i.e. adverbs themselves can easily change form (bound/derivational morphemes), frequently accept new words into its word category, and sheer number of adverbs give ample opportunity for use in language-based jokes – the absence of adverbial use in language-based jokes seems a bit counterintuitive.

There may be a couple reasons why we see such infrequent use of adverbs in language-based jokes. First is *Proximity* of the word class to our perceptions of the world around us. Nouns and verbs are the word classes we most often use to describe our world and experiences. As Klammer, Schulz, and Volpe see it, "nouns and verbs are the basic building blocks of language; all other words are subsidiary to them in some way" (p. 71). In other words, we will perceive the world *first* in terms of nouns and verbs: "In talking about the world around us, we use nouns as a major category, naming what we perceive. Verbs, which describe what those things are doing, are also major categories. Adjectives act in a secondary way, telling what nouns are like. Adverbs are even further removed from tangible experience" (pp. 75-76). Adverbs therefore are "usually not essential to the sentence" (p. 77) or to our immediate field of experience.

In addition, adverbs are rarely derived from nouns or verbs and vice versa.[18] When adverbs are derived from another form of speech it is usually from adjectives. This causes a double displacement from *Proximity* to our perceptual world since adjectives have already been once removed, so to speak, from our field of experience. Those adverbs not derived from adjectives stand on their own, with no seeming relation to nouns, or verbs (e.g. over, in, as, again, about, etc.).[19] You can see this double displacement in one of the only examples of adverbial ambiguity in this study:

- *"I needn't have been cloned," said Dolly sheepishly, "my family used to do exactly what I did anyway!"*

If *Proximity* to our tangible world were the only factor at play, however, adjectives also would lack frequency in language-based jokes just as adverbs do. Another factor at work here is *Transitivity* of words from one class to another. For the most part, nouns, verbs, and adjectives borrow mutually from each other to create new words. For example, (1) *Taste* the salt, The *taste*

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[18] According to Klammer, Schulz, and Vople (2000, p. 80), "a small group of nouns can function as adverbs" (i.e. Charlie Brown had to take Snoopy *home*). This is the only ADJ–N transitivity that seems plausible. In addition, it is noted that –ward, –ways, and –wise are markers for adverbs derived from nouns, but "they are relatively rare" (2000, p. 76).
[19] Based on lists found in *Word Frequencies in Written and Spoken English*, available at www.comp.lancs.ac.uk/ucrel/bncfreq/flists.html.

was salty, The salt was *tasty,* (2) Her hand *shook*, *Shake* the hand, Her hand was *shaky*. But try making any of these words into adverbs: tastily? shakily? It's a bit of a stretch. Klammer, Shulz, and Volpe (2000, p. 64) highlight this transitivity in their discussion of types of noun: (1) nouns that name persons, places, things (cat); (2) nouns derived from adjectives (happiness); (3) nouns derived from verbs (reaction, runner); (4) adjectives that are also nouns (red, cold); (5) verbs that are also nouns (run, hit); (6) adjectives rarely used as nouns (The Good); (7) verbs used in nouns positions (walking, seeing). As is obvious, adverbs seem to exhibit much fewer opportunities for *Transitivity* from one word class to another, further inhibiting their ability to function in language-based jokes.[20]

But placing the two above factors aside, we should still see ADJ–ADV word class change to some extent. After all, both adjectives and adverbs utilize the *–ly* morpheme, and many adverbs ending in *–ly* are in fact derived from their adjectival counterparts (carefully, slowly, really, probably, actually, etc.[21]). In addition, both adverbs and adjectives can be compared using more/most or comparative/superlative forms. But as the results of this study show, not one word class progression occurred from ADJ to ADV or vice versa. So what other factor may be at play here? It could be due to *Similarity* of meaning*.* Both adjectives and adverbs act as modifiers or qualifiers: adjectives describe the quality of nouns; adverbs describe the quality of verbs, adjectives, adverbs, and entire sentences (Klammer, Schulz, and Vople 2000, p. 76). While the structure of the sentence might promote an ADJ–ADV double meaning, the words themselves remain too similar in definition to cause a true *punny* plunder. Take the following example:

- *The lion looked fast.*

Technically, this is an example of ADJ/ADV ambiguity; however, as is the case with most instances of this type, the humor fails due to the spirit of the meaning being retained in both interpretations.

The final factor at play in our discussion of adverb paucity in language-based jokes is *Mobility*. As Klammer, Schulz, and Volpe point out "it is often possible, for emphasis and stylistic effect, to move adverbs about within a sentence. In fact, the mobility of adverbs is one of their most distinctive characteristics" (2000, p. 76). Consequently, adverbs maintain their strength of meaning despite their positioning in the sentence. This is not the case with other word classes. For example, if you move a noun, it may change from a subject to direct object or indirect object. If you move an adjective, you may end up modifying the incorrect noun. And verbs by nature are fairly set in their structural positioning, not making grammatical sense when moved elsewhere in the sentence.

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[20] In discussing the large frequency of adjectival use in language-based jokes, we must also remember that ADJ–N/N (compound) ambiguity played a large role and also contributed to high frequency of adjectival use.
[21] Based on lists found in *Word Frequencies in Written and Spoken English*, available at *www.comp.lancs.ac.uk/ucrel/bncfreq/flists.html.*

Even with the factors mentioned above (*Proximity, Transitivity, Similarity, Mobility*) adverbs still exhibit potential for ambiguity based solely on phonological similarities just like nouns, verbs, and adjectives. Words such as too (two, to), so (sew), down, back, still, here (hear), there (their). In addition, Tom Swifty jokes offer other opportunities for adverbial use in language-based jokes, though only appearing twice in this study. But because of the other factors mentioned above, adverbs with potential for double meaning may prove too cumbersome to use in language-based jokes.

Holistic Processing

Perhaps the major finding in this study, and in-line with goal 4, is the trend of holistic processing. In other words, in processing the habitual/serious interpretation of jokes, parts of words and phrases are typically taken together while the humorous/nonhabitual counterpart usually relies on parts of words and phrases being taken on their own merit. As seen in the results, this tendency does not seem to appear on just one linguistic level; rather, it emerges on all levels from the phonological (syllabic tendency for holistic processing and word class progressions) to the lexical (morphological tendency to process holistically) to the syntactic (constituent parts of compound words).

Supported by phonological/syllabic joke results, we observe all syllables united for the serious interpretation; the humorous or nonhabitual interpretation came when the syllables were taken separately. Instances of hanging syllables in phonological jokes yielded a similar trend; the serious or habitual interpretation used all the syllables taken together, while the humorous or nonhabitual interpretation used the alternative meaning of only some of the syllables or morphemes, taking them separately (i.e. non-holistic processing) and leaving a "hanging" component in the humorous interpretation. Lexical jokes using similar divisions of a morphological (rather than syllabic) nature yielded similar results. The majority (85%) of lexical jokes using the morphological joke-making strategy required taking the morphemes together for the serious, habitual interpretation and taking them separately for the humorous interpretation.

Looking at word class progressions in phonological jokes, further evidence was found for holistic processing. Prevalent were progressions in which one multi-syllabic word (N) provided the serious interpretation for the joke (mastectomy, leprechaun) while a division of this word along syllabic lines (NP, VP, NPVP) formed the humorous interpretations (ma-stuck-to-me, leper con). Once again, the serious interpretation required the syllables be processed together while the humorous required them taken separately forming a humorous phrase.

Prevalent in all types of jokes was the dependence on common phrases in the serious interpretations. Familiarity with certain words being used together in sequence (justifiable homicide, hit-and-run accident, curiosity killed the cat) assisted in creating the serious meaning, while the humorous nonhabitual meaning typically played with portions of these commonly known

phrases (*jestifiable homicide; hit-and-run oxidant; Curie horse tea killed the cat*). This trend was extremely prevalent, found in 25% of all jokes analyzed, and had a presence in all types of jokes proportional to their overall occurrence. This finding also reflects a holistic processing trend as part of the habitual language of English speakers.

In further support is the idea of morpheme inflation – the use of a morpheme (usually a bound morpheme) that is ungrammatical or has an alternative meaning when taken together with the other morphemes in the word. Only when the morphemes were taking on their own merit (*ewes-ed, ex-posed*) did humor occur, while the serious/habitual interpretation required them taken together in a grammatically correct manner (*used, exposed*).

In syntactic jokes, N (compound) to NP word class progressions showed further credence for holistic processing. In almost all cases, the serious/habitual interpretation was as a compound noun while the humorous NP interpretation required joke recipients to take each component of the compound on its own merit. In addition, instances of ADVP–PP ambiguity supports the trend as well.

This idea has parallels in psycholinguistics regarding processing of compound nouns. It has been a matter of debate whether lexical decomposition precedes access to whole-word interpretation in the processing of compound nouns or vice versa. Most of the current research supports a model of decomposition in lexical processing of compound nouns (Fiorentino & Poeppel 2007, Badecker 2001) given the rarity of non-spaced compounds and the presumption that compound spacing assists in lexical decomposition (Juhasz et al. 2005). At the least it seems as though a parallel race model for lexeme and compound access occurs (Pollastek et al. 2000, Juhasz et al. 2005). These prior studies seem in conflict with the results found in this study which suggest whole-word access is preferred when given a choice between the two. In other words, while past studies suggest a part-to-whole interpretation of language or parts and whole interpreted at the same time, this study suggests a preference for whole over parts in the habitual interpretation of language-based jokes.

Interestingly, Juhasz et al. found that "spatial unification benefits conceptual unification" (2005, p. 314) in the case of normally spaced compound nouns. Though our study did not focus on written puns but their spoken counterparts, it is interesting to note that for the written forms in our data set, all but one compound had spaces (horsepower) yet the were still processed holistically. Word frequency of the compound may have something to do with this; however, it is interesting that despite separation of the two words in each compound, the habitual interpretation seemed to be processed holistically first and foremost.

This dependence on habitual language use and common phrases further supports the holistic processing observation. Like with the previous syllabic discussion, the serious or habitual interpretation requires the joke recipient to have a familiarity with common phrases, the placement of the phrases' words in a common sequence, and the meaning of the words when

taken together. The joking, nonhabitual interpretation requires the recipient to take a step back and focus on the phrase components individually that have been changed to create the joke. This trend of holistic processing could be revealing as to English language speakers' habits of linguistic interpretation.

Though previously undiscussed in the realm of jokes, holistic processing has had a major presence in other multi-disciplinary theoretical approaches to perception and psychology, namely Gestalt Theory. As presented in his 1924 lecture, Max Wertheimer explains Gestalt Theory as follows: "There are wholes, the behaviour of which is not determined by that of their individual elements, but where the part-processes are themselves determined by the intrinsic nature of the whole. It is the hope of Gestalt Theory to determine the nature of such wholes." Though credited to Christian von Ehrenfels and finding its roots with von Goethe, Kant, and Ernst Mach, Gestalt Theory gained popularity with Wertheimer's 1922 publication (Available at: *http://psy.ed.asu.edu/~classics/Wertheimer/Forms/forms.htm*) in which he concludes: "For an approach 'from above downward', i.e. from whole-properties downward towards subsidiary wholes and parts, individual parts ('elements') are not primary, not pieces to be combined in and-summations, but are *parts of wholes*."

In the same token, Wertheimer (1922) sees past experience as one of the elements involved in interpreting the whole: "Another Factor is that of past experience or habit. Its principle is that if *AB* and *C* but not *BC* have become habitual (or 'associated') there is then a tendency for *ABC* to appear *as AB/C*." This finds parallel with our current study regarding common phrase use. If, for example, every time we use the phrase "on the fly" in the context of its idiomatic meaning (ADVP) and not literal meaning (PP), our thoughts would naturally tend toward the idiomatic interpretation, as we have seen exemplified in the case of the following pun:

- *The surgeon really did not know how to perform quick surgeries on insects, but he did one* <u>*on the fly*</u>.

Gestalt Theory as it applies to linguistics and language acquisition has had an up and down history (no pun intended) to say the least. As Peters explains it, there seem to be two approaches in the language acquisition literature: one "which proceeds from the parts to the whole (Analytic)" and another which proceeds from "whole to parts (Gestalt)" (1977, p. 560). Peter's study shows evidence for Gestalt language production strategies (whole to parts) especially in expressive (social control) situations. Current language acquisition strategies have followed this lead opting for what could be considered top-down methods such as Total Physical Response (Asher 2003) and SIOP models (Echevarria, Vogt, & Short 2007)[22]. However, it is generally accepted that both top-down and bottom-up approaches work in concert for language interpretation and acquisition.

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[22] "The theoretical underpinning of the model is that language acquisition is enhanced through meaningful use and interaction. Through the study of content, students interact in English with meaningful material that is relevant to their schooling. Because language processes, such as listening, speaking, reading, and writing, develop interdependently, SI lessons incorporate activities that integrate those skills" (available at: *http://www.siopinstitute.net/media/pdfs/sioppaper.pdf*).

In the context of puns and this study in particular, there is overwhelming evidence toward the top-down method of habitual linguistic interpretation. In taking the non-joking version of the joke as our habitual manner of thinking, overwhelmingly we see a holistic/top-down approach in the habitual interpretation of puns. In looking at syllables, morphemes, words, compound words, and common phrases, we see holistic processing emerge on all levels of habitual English pun interpretation.

Though not directly linked with the famed Sapir–Whorf hypothesis (discussed further below), Edward Sapir documented two instances of punning in Navaho (though making sure to note that "puns seems strangely un-Indian, whatever may be the reason" [1932, p. 217]) despite "the great number of homonymous elements in Navaho, due largely to the leveling influence of phonetic laws, and its peculiarly intricate structure, which derives quite definite meanings from the assembling of elements that are generalized and colorless in themselves" (1932, p. 219). As exemplified in the two puns he presents, the humor for the most part derives from this homophony. However, he does note one instance in which the classification morpheme for round object [–'a] was applied to an animate being. Though not comprehensive by any means, this instance in the context of Navajo puns seems to mirror this study's holistic processing findings with regard to morpheme inflation.

On the one hand, Gestalt Theory and the idea of holistic processing in the context of puns could merely be indicative of habitual language processing in general regardless of which language we are speaking about. On the other hand, if this trend is specific to only certain languages, these findings could be revealing as to how English language speakers interpret the world around them through language. In other words, this could be indicative of linguistic relativism as put forth by the Sapir–Whorf hypothesis.

Language Habits and Sapir–Whorf

Edward Sapir and his protégé Benjamin Whorf were the first to suggest "the language habits of our community predispose certain choices of interpretation" (Sapir as quoted in Whorf 1962, p. 134). In other words, how we see our world and interpret reality may be dependent on the rules that govern our language use. As Whorf sees it, "users of markedly different grammars are pointed by their grammars toward different evaluations of externally similar acts of observation, and hence are not equivalent as observers but must arrive at somewhat different views of the world" (1962, p. 221). In addition, Whorf did not see any particular system (e.g. tense, nouns) as effecting concepts of reality, but rather the interaction of many aspects of language (lexical, morphologic, syntactic, etc.), which are coordinated in a frame of consistency. In other words, Whorf claims that a comparison of habitual thought is not just a comparison of the presence or lack of linguistic elements (no tense, using ordinals instead of numbers), but relies on the "suggestive value of patterns" (p. 147).

Previous research regarding linguistic relativism has shown some support for Whorfian effects of language on thought. Gordon's (2004) study of enumeration in the Brazilian Pirahã tribal language showed that the "impoverished counting system limits their ability to enumerate exact quantities when set sizes exceed two or three" and that the Pirahã language is "incommensurate with languages that have counting systems that enable exact enumeration" (p. 4). Lucy's study (1992) of grammatical treatment of nominal number (pluralization) in Yucatec Maya and American English also shows credence for linguistic relativism. His study found correlations between the grammatical structuring of reference categories and behavior of individual speakers on controlled tasks (p.150) thus exemplifying how language can influence thought in the narrow scope of nominal number usage.

Though these studies and others have shown some support for linguistic relativism through controlled tasks, only one other known study has analyzed puns from a Whorfian perspective. Ferro–Luzzi's study of Tamil-language puns examined whether "the mental processes apparent in Tamil verbal humor are similar to or different from those in Western verbal humor" (1986, p. 265). He found that "the Tamil humorist uses the same cognitive strategies as his Western colleague" (p. 271). While these results were "rather damaging to the relativist's position and strongly supportive of the 'psychic unity of mankind'" (p. 271), it must be noted that his exploration took quite a different route than the current study. Ferro-Luzzi assumed "types of jokes may be more or less equated with cognitive strategies" (p. 271). Therefore, the non-existence or existence of the same types of jokes (i.e. phonological, lexical, and syntactic) in different languages is proof for or against linguistic relativism. The current study, however, assumed the presence of these mechanism to begin with and looked further within each category for patterns of joke formation that transcend joke categories and exist within the entire range of joke types.

As discussed previously, the major mechanism found within the different joke type categories and apparent on all linguistic levels within the current study is holistic processing. Ferro–Luzzi does note the tendency in both Tamil and English to cut up existing words for the non-habitual (funny) interpretation: "…rather than creating funny new words through the fusion of existing words, double meaning may be achieved by cutting up existing words" (1986, p. 267). However, the extent to which this tactic is used and the presence of other "holistic" mechanisms in the serious/habitual interpretations of Tamil jokes was left unexplored.

Though Ferro-Luzzi's study does little to support or refute this study's findings regarding linguistic relativism, it does address the crux of the matter: "there are basic universal traits of our thinking determined by the physiology and the general human situation and secondary traits on which language may exert its influence" (p. 265). In other words, it is not certain whether the idea of holistic processing transcends languages or if it is of a more Whorfian nature being a feature unique to only some languages (like English). Similar to Chomsky's notion of deep and surface structure – innate conceptual connections vs. linguistic expressions influenced by language – it is

unclear as to whether holistic conceptualization is a trait of deep structure, surface structure, or both.

Addressing holistic processing in English compound words specifically, Juhasz et al. suggest there is a connection between written language representations and the manner in which it is processed. They suggest that while in languages such as German, Finnish, and Dutch compounding via spatial concatenation (i.e. no space between constituent parts) is commonplace, in English spatial concatenation of compound words is "usually only reserved for the familiar, lexicalized two-word phrases" (2005, p. 292). "It is plausible to suggest, therefore, that the processing of compound words may differ in English." Specifically, "compound representations may be more closely tied to the representations of their lexemes in languages that permit spatial concatenation of novel compound words, since readers would need to gain access to the meaning of the novel compound word's constituents to surmise its meaning" (2005, p. 292). This study found the opposite to be the case.

As mentioned previously, Juhasz et al. found that "spatial unification benefits conceptual unification" (2005, p. 314) in the case of English normally spaced compound nouns. The study also found "evidence for both a functional role of lexemes in compound word identification, as well as the fact that there also exists a lexical entry for the entire compound" (i.e. parallel race model). While previous research on compounds suggests English is processed on a lexeme-to-lexeme basis (and thus is processed differently than the aforementioned languages), Juhasz et al.'s results suggest "spatial segmenting compounds facilitates access to the constituent lexemes while spatial unification of compounds benefits the specification of full compound meaning" (2005, p. 291). In other words, access to both individual lexemes and lexicalized two-word phrases are possibilities for preferred processing.

Most previous research suggests that English language speakers would process compounds differently lending credence to linguistic relativism rather than language processing in general. However, in-line with the results of the current study and Juhasz results (and in conflict with any Whorfian characteristics), this potential for processing holistically supports an anti-Whorfian approach when compared with German, Finnish, and Dutch compounds.

Regardless of whether holistic processing is specific to English or if it transcends all languages, it appears the English language shows preference for holistic interpretations *on all linguistic levels* as a form of habit…at least in the realm of jokes. Whether it be united syllables and morphemes or united compound words, serious/habitual interpretations (as presented in English language-based jokes) overwhelmingly tend toward holistic interpretations on all levels, lending credence to Whorf's "suggestive value of patterns." From a Whorfian perspective and in-line with the evidence presented in this study, English language speakers would tend toward a "Gestalt"-esque organization of their world.

Further research that explores punning in various languages, its relationship with holistic processing, how linguistic group boundaries may function in different languages, and the relationship of holistic processing with cultural counterparts is therefore warranted.

Implications and Future Research

Now that the holistic processing trend has been identified as a habitual part of English language speakers thought processes, further research should explore how this manifests into cultural trends or worldviews of English language speakers, which can only be speculated upon at this time. Equally important would be to explore puns of other languages, what puns in other languages reveal about its speakers, and the corresponding cultural trends and worldviews that other languages' linguistic trends shed light upon. As an alternative, it may be found that holistic processing as a characteristic of the habitual/serious pun interpretation is universal; in other words it is not unique to only certain languages but manifests itself this way in all languages.

Another opportunity for further research is to explore Zipf's (1935) notion of type–token proportionality as it relates to language-based jokes, language processing and use, and notions of habitual thought. Zipf makes a distinction between the abstract notion of a concept as it exists conceptually (type) and its actual use in linguistic expressions (token). As Zipf has found, the number of tokens is inversely proportional to its overall usage rank (i.e. the most frequent word will occur twice as often as the 2nd most frequent word, which will appear twice as often as the 3rd most frequent word and so on).

Taking it a step further, Zipf points out that the type–token link is connected to the linguistic situation in which it occurs. In other words, there exist preconditions within a particular concept (type) as to the acceptability of its use in certain syntactic situations (tokens). This shows parallels with language processing literature that implies syntactic information exists within the lexical components of words. The interest of this concept in relation to habitual thought patterns and language-based jokes is while we know "tokens" differ from language to language (exhibited by the mere intranslatability of many puns and varying syntactic rules unique to all languages), there exists no universal evidence as to how similar or different "types" are from language to language. Whether or not these preconditions of "types" are a function of the concept itself or its use within the constraints of a particular language could shed light on the link between language and thought.

In addition, R. Ferrer i Cancho (2005) points out that variations in Zipf's model do occur, but predictably so. In his study of variations of Zipf's law in human language, Cancho shows that when variance does occur in Zipfarian standards, it often "contains information about the balance between cost and communicative efficiency" (p. 249). So while Zipf's standard may shed light on which words are most likely to be used in the serious interpretation of puns, Cancho's variance model may shed light on the limits of non-habitual variance in the funny interpretation of puns. In

comparing types and tokens of numerous languages, similarities or differences between the type–token link, as well as the limits of variance in atypical "funny" usages, we may delineate the degree to which language and thought are linked.

From a pragmatics perspective, individual tokens could also shed light on the social nature of puns in general (i.e. the type). Given the proverbial "groan" that often follows but does not deter the punster from attempting more ill-fated language play, perhaps the social role is more personal: a test of one's own cleverness rather than meant for an audience; a semi-acceptable way of getting attention drawn to oneself riding the line between topic-related conversation and abruptly changing the subject; a way to make others feel welcome and more comfortable with oneself. Or perhaps the groan, as Shouse points out, is simply an indicator of familiarity or predictability: "I prepare for my father's jokes by watching my mother's reaction. When she sits up straight and looks alert, she's never heard the joke. When she groans and shakes her head, she's heard it, two too many times" (1998, p. 8). Further research as to the social nature of the pun as well as the punster's motivations is thus warranted.

Limitations

Though every effort was made to conduct a completely random sample of language-based jokes for analysis, the versatility and ever-changing nature of languages proves this task insurmountable. However, certain measures were taken to ensure a wide and varied corpus from which to choose a data sample. Specifically, the jokes used in this study appeared on a variety of different Web sites allowing easy access for much of the population (or at least more-so than printed texts). In addition, Web sites (unlike printed texts) are easily modified as linguistic changes or propensities manifest. Moreover, this study's data came from 15 different Web sites which presumably had a variety of contributors further widening and varying the sources for the data sample. Perhaps including printed sources alongside the Internet sources would have further broadened the data sample; however, printed sources involve more time consuming methods in data collection and were thus eliminated from this study. Also, printed sources run a greater risk of fossilization as they can't be easily modified for changing linguistic trends or emerging trends in "punning."

Additionally, a number of puns relied on knowledge specific to certain English speaking countries, namely the United States (*Presidential debates are commonly violent and full of Gore*) and Canada (*There was one absentee PM who may as well have been locked in a plastic bin. The other MPs would sit around inquiring, "Tupper - where?"*). This is not seen as a major setback in this study considering the same could be said of industry-specific puns, which also require specialized knowledge (*Your "diligence factor" may be too high if you keep trying those techniques that were recommended by management consultants during the latest pendulum*

swing). Regardless, it may be wise in future studies to look at puns coming from one specific country to avoid any potential issues in data analysis.

Finally, though I had colleagues to consult with regarding categorization of more complex jokes, I was the primary analyzer of all the jokes. This study could be improved by having 2 to 3 additional colleagues analyze *all* jokes then compare results.

Chapter 7: References

Anatonopoulou, E. (2004). Humor theory and translation research: proper names in humorous discourse. *Humor*, *17*(3), 219-255.

Asher, J.J. (2003). *Learning Another Language Through Actions.* Los Gatos, CA: Sky Oaks.

Attardo, S. (1994a). *Linguistic Theories of Humor*. Berlin: Walker de Gruyter & Co.

Attardo, S., Attardo, D.H., Baltes, P., & Petray, M.J. (1994b). The linear organization of jokes: analysis of two thousand texts. *Humor, 7*(1), 27-54.

Badecker, W. (2001). Lexical composition and the production of compounds: evidence from errors in naming. *Language and Cognitive Processes, 16*(4), 337-366.

Binsted, K. & Ritchie, G. (2001). Towards a model of story puns. *Humor, 14*(3), 275-292.

Bucaria, C. (2004). Lexical and syntactic ambiguity as a source of humor: the case of newspaper headlines. *Humor, 17*(3), 279-309.

i Cancho, R.F. (2005). The variation of Zipf's law in human language. *European Physical Journal B, 44*, 249-257.

Chiaro, D. (1992). *The Language of Jokes: Analysing Verbal Play*. London/New York: Routledge.

Duffy, S., Kambe, G., & Rayner, K. (2001). The affect of prior disambiguating context on the comprehension of ambiguous words: evidence from eye movements. In D.S. Gorfein (Ed.), *On the Consequences of Meaning Selection: Perspectives on Resolving Lexical Ambiguity* (pp. 27-43). Washington, D.C.: American Psychological Association.

Dundes, A. (1977). Jokes and covert language attitudes: the curious case of the wide-mouth frog. *Language in Society, 6*, 141-147.

Dundes, A. (1984). *Life is Like a Chicken Coop Ladder: A Portrait of German Culture Through Folklore.* New York: Columbia University Press.

Echevarria, J., Vogt, M.E., & Short, D.J. (2007). *Making Content Comprehensible for English Learners: The SIOP Model* (3rd edition). New Jersey: Allyn & Bacon.

Ferro-Luzzi, G.E. (1986). Language, thought, and Tamil verbal humor. *Current Anthropology, 27*(3), 265-272.

Fiorentino, R. & Poeppel, D. (2007). Compound words and structure in the lexicon. *Language and Cognitive Processes, 22*(7), 953-1000.

Francis, W.N. & Kucera H. (1982). *Frequency Analysis of English Usage: Lexicon and Grammar.* Boston: Houghton Mifflin Co.

Franz, A.F. (1996). *Automatic Ambiguity Resolution in Natural Language Processing: An Empirical Approach*. Berlin: Springer.

Giora, R. (2003). *On Our Mind. Salience, Context, and Figurative Language*. Oxford: Oxford University Press.

Gordon, P. (2004). Numerical cognition without words: evidence from Mazonia. *Science*, *306*(5695), 1-8.

Gorfein, D.S. (2001). On the consequences of meaning selection: an overview. In D.S. Gorfein (Ed.), *On the Consequences of Meaning Selection: Perspectives on Resolving Lexical Ambiguity*. Washington, D.C.: American Psychological Association.

Hempelmann, C.H. (2003). "99 nuns giggle, 1 nun gasps:" The not-all-that-Christian natural class of Christian jokes. *Humor, 16*(1), 1-31.

Hudson, R. (2003). Gerunds without phrase structure. *Natural Language & Linguistic Theory, 21*, 579-615.

Juhasz, B.J., Inhoff, A.W., & Rayner, K. (2005). The role of interword spaces in the processing of English compound words. *Language and Cognitive Processes, 20*(1/2), 291-316.

Klammer, T.P., Schultz, M.R., & Vople, A.D. (2000). *Analyzing English Grammar* (3rd edition). Needham Heights, MA: Allyn & Bacon.

Laurian, A-M. (1992). Possible/impossible translation of jokes. *Humor 3*(1/2), 111-127.

Lederer, R.H. (1980). *English Word-Making* [doctoral dissertation]. University of Illinois Urbana-Champaign.

Lew, R. (1996). Exploitation of linguistic ambiguity in Polish and English jokes. *Papers and Studies in Contrastive Linguistics, 31*, 127-133.

Lucy, J.A. (1992). *Grammatical Categories and Cognition: A Case Study of the Linguistic Relativity Hypothesis.* New York, NY: Cambridge University Press.

MacDonald, M.C., Pearlmutter, N.J., & Seidenberg, M.S. (1994). Lexical nature of syntactic ambiguity resolution. *Psychological Review, 4,* 676-703.

Morreall, J. (2004). Verbal humor without switching scripts and without non-bona fide communication. *Humor, 17*(4), 393-400.

Oaks, D.D. (1994). Creating structural ambiguities in humor: getting English grammar to cooperate. *Humor, 7*(4), 377-401.

Pepicello, W.J. & Green, T.A. (1984). *The Language of Riddles.* Columbus, OH: Ohio State University Press.

Peters, A.M. (1977). Language learning strategies: does the whole equal the sum of the parts? *Language*, *53*(3), 560-573.

Pollatsek, A., Hyona, J., & Betram, R. (2000). The role of morphological constituents in reading Finnish compound words. *Journal of Experimental Psychology: Human Perception and Performance, 26,* 820-833.

Ptaszynski, M. & Mickiewicz, A. (2004). On the (un)translatability of jokes. *Perspectives: Studies in Translatology, 12*(3), 176-193.

Raskin, V. (1985). *Semantic Mechanisms of Humor.* Dordrecht, Netherlands: Rediel.

Raskin, V. (1987). Linguistic heuristics of humor: A script-based semantic approach. *International Journal of the Sociology of Language, 65,* 11-25.

Reah, D. (1998). *The Language of Newspapers.* London: Routledge.

Ritchie, G. (2004). *The Linguistic Analysis of Jokes.* London: Routledge.

Sapir, E. (1932). Two Navaho puns. *Language*, *8*(3), 217-219.

Shouse, D. (1998). Now I've `groan' accustomed to my father's humor. *Christian Science Monitor*; *90*(90), 8.

Stageberg, N.C. (1971a). Structural ambiguities in English. In L.C. Deighton (Ed.), *The Encyclopedia of Education, 3,* 356–366.

Stageberg, N.C. (1971b). Structural ambiguity and the suprasegmentals. *The English Record, 21*(4), 64-68.

Stump, G.T. (1991). A paradigm-based theory of morphosemantic mismatches. *Language, 76*(4), 675-725.

Tabossi, P. (1988). Accessing lexical ambiguity in different types of sentential contexts. *Journal of Memory and Language, 27*(3), 324-340.

Taha, A.K. (1983). Types of syntactic ambiguity in English. *International Review of Applied Linguistics in Language Teaching (IRAL), 21,* 251-266.

Tsakona, V. (2003). Jab lines in narrative jokes. *Humor, 16*(3), 315-329.

Wertheimer, M. (1922). Untersuchungen zur Lehre von der Gestalt II, in *Psycologische Forschung*, *4*, 301-350. [Translation published in Ellis, W. (1938). *A Source Book of Gestalt Psychology*. London: Routledge & Kegan Paul.] Available at: http://psy.ed.asu.edu/~classics/Wertheimer/Forms/forms.htm.

Wertheimer, M. (1924). Über Gestalttheorie: an address before the Kant Society, Berlin, 7 December 1924. [Translation published in Ellis, W. (1938). *A Source Book of Gestalt Psychology*. London: Routledge & Kegan Paul]. Available at: *http://www.gestalttheory.net/archive/wert1.html#fn1.*

Whorf B.L. (1962). Linguistics as an exact science. In J.B. Carroll (Ed.), *Language Thought and Reality: Selected Writings of Benjamin Lee Whorf* (5th edition, pp. 220-232). Cambridge: Massachusetts Institute of Technology Press.

Whorf B.L. (1962). The relation of habitual thought and behavior to language. In J.B. Carroll (Ed.), *Language Thought and Reality: Selected Writings of Benjamin Lee Whorf* (5th edition, pp. 134-159). Cambridge: Massachusetts Institute of Technology Press.

Zabalbeascoa, P. (1996). Translating jokes for dubbed television situation comedies. *The Translator, 2*(2), 235-257.

Zipf, G.K. (1935). *The Psycho-Biology of Language*. Cambridge: Riverside Press.

Other Data Sources
www.m-w.com Merriam-Webster Online Dictionary