The Subjectification of English

Adjectives, and the Effect of Subjectivity

on Prenominal Adjective Order

by

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ABSTRACT

Linguistic subjectivity and subjectification are fields of research that are relatively new to those working in English linguistics. After a discussion of linguistic subjectivity and subjectification as they relate to English, I investigate the subjectification of a specific English adjective, and how its usage has changed over time. Subjectivity is held by many linguists of today to be the major governing factor behind the ordering of English prenominal adjectives. Through the use of a questionnaire, I investigate the effect of subjectivity on English prenominal adjective order from the perspective of the native English speaker. I then discuss the results of the questionnaire, what they mean in relation to how subjectivity affects that order, and a few of the patterns that emerged as I analyzed the data.

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Chapter 1

INTRODUCTION

The function of an adjective in English, or, indeed, any language, is to modify a noun or a

pronoun, õso as to describe it more fullyö (õadjective,ö OED). In other words, a noun gets

more specificity, or its meaning gets more fully realized, by the adjectives that modify it.

One basic criterion for a living language is that it changes over time, and these changes

can take virtually any form, be it word order, usage, or simple changes in meaning. What

is it that drives changes in meaning for English adjectives? A force for change that has

interested English-speaking linguists in recent decades is the concept of *subjectification*,

or a tendency for language to become increasingly oriented toward speakers and

locutionary agents over time (Traugott, 1989). The first question that will be explored

here is whether or not English adjectives do, in fact, become increasingly subjectified

over time.

An adjective in English can occur in a variety of places throughout a sentence and fill a

variety of slots, but perhaps the most common place for it to appear is in the attributive,

or prenominal, position. When more than one adjective premodifies a noun, what

determines the order in which they appear? There have been many theories to account for

prenominal adjective order in the English noun phrase; one of these theories posits that

the objectivity and subjectivity of each adjective will determine their relative order

(Quirk, 1985; Hetzron, 1978). The other question that will be explored and tested here, in

part, is whether or not prenominal adjective order is affected by the adjectivesø

subjectivity in relation to each other. If other factors that appear to affect prenominal

adjective order present themselves, they will be discussed as well, to provide as clear a picture of the meaning of the data as possible.

Subjectivity

Subjectivity is one of those scientific concepts that shares its name with a less-precise concept in the common parlance. The experts seem well aware of this fact, however, and often address the confusion in their introductions to scientific works on the subject. Finegan (1995), for example, asserts that, in some contexts, subjectivity, as opposed to objectivity, suggests õsomething ÷soft,øunverifiable, even suspiciousö (p. 1). In their introduction to *Subjectification: various paths to subjectivity*, Athanasiadou, Canakis, and Cornillie (2006) are also careful to point out that objectivity and subjectivity, and the connotations that these terms typically arouse in lay speakers of English, are not the same concepts as those of the same names in linguistic circles (p. 1). Cuyckens, Davidse, and Vandelanotte (2010) note that when subjectivity is used as a non-technical term, õit refers to the situation of being influenced by personal opinion, often unfairly so [í] or of existing in the mind or imaginationö (p. 1). Finegan (1995) goes on to further disclaim that subjectivity does not concern the *subject* as a grammatical relation, and nor does it concern subjective versus objective modes of inquiry.

 So thatøs what subjectivity in linguistics is not. What subjectivity in linguistics *is*, at least in English, may prove to be just as problematic a question. One of the premier subjectivity theorists himself asserted that subjectivity in English is a notion of subtlety and near ineffability (Langacker, 1990). Cuyckens *et al.* (2010) understatedly assert that defining the term *subjectivity* is not a straightforward matter, and that it is muddied by myriad uses and interpretations.

However, after discussing the difficulty in defining and the specific meaning of subjectivity in linguistic discourse, these same experts go on to provide us with fairly pithy definitions. Cuyckens *et al.* (2010) maintain that linguistic subjectivity "refers, broadly speaking, to the centrality of the speaker in language" (p. 1). Finegan's (1995) definition is along similar lines, but adds some specificity: "[subjectivity is the] expression of self and the representation of a speaker's (or, more generally, a locutionary agent's) perspective or point of view in discourse — what has been called a speaker's imprint" (p. 1).

Interestingly enough, although subjectivity has surely been present and a factor for as long as language has been around, it is a relatively new subject, as far as English linguistics is concerned. Indeed, Finegan (1995) avers that, prior to the interest given to subjectivity in English in the decade or so before the publication of the book for which he was writing, there was "a curious indisposition even to recognize the self in discourse" (page 2). Athanasiadou *et al.* (2006) discuss in their volume the tendency among Anglo-American linguists to treat language as a means to express propositional thought, "where 'propositional thought' is to be related to the objective description of reality" (p. 1). Anglo-American linguists are singled out here because they seem to be behind their counterparts from other countries and traditions. While English-speaking linguists have been seriously discussing subjectivity for roughly 30 or 40 years, continental European linguists have been thinking about and discussing the subjectivity of their own respective languages for much longer. Benveniste, for example, discussed the speaking subject, as opposed to the syntactic subject, as far back as 1958 (as cited in Athanasiadou *et al.,*

2006). Likewise, the Japanese have been discussing the linguistic subjectivity of their own language for two centuries (Finegan, 1995).

Among other factors, this dichotomy of subjectivity research may be traced to what Langacker (1990) referred to above as its subtlety and ineffability. Japanese linguists have likely been discussing subjectivity for as long as they have because it often takes the form of morphological markers, and thus lacks the subtlety and ineffability that would make it difficult for a linguist to concretely understand and research it (Finegan, 1995). In many other languages, including English, subjectivity takes other forms, including intonation and word order (Finegan, 1995), and perhaps this is a significant reason that it has taken English-speaking linguists a bit longer to embrace it as a serious subsection of language study.

At its core, linguistic subjectivity asserts that language does not occur in a vacuum, be it a conversation, a novel, or a masterøs thesis; in each, the locutionary agent, or the person expressing him-/herself, cannot avoid putting his/her mark, or imprint, on what is produced. Indeed, as the aforementioned Benveniste (1971) observed, õA language without the expression of person cannot be imaginedö (p. 226).

Two of the foremost thinkers in English subjectivity are Traugott and Langacker, though they apply their somewhat different definitions and models to their own theoretical frameworks (Athanasiadou *et al.*, 2006). As Athanasiadou *et al.* (2006) also point out, during the fledgling days of the linguistic study of subjectivity in English, Traugott and Langacker often referred to each otherøs work for substantiation when asserting their own ideas; nowadays, however, more interest is given to the differences between the two theories.

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For Langacker, *subjectivity* and *objectivity* are construed in terms of viewing arrangement (Athanasiadou *et al.,* 2006). A simple example Langacker gives to explicate the basis of his thinking involves a pair of glasses. When someone is holding a pair of glasses and their attention is centered on them, Langacker asserts that the glasses are maximally objective, i.e., they are the focus of the observerøs attention. If the person then puts the glasses on and examines something else, Langacker considers the glasses to be maximally subjective. The glasses at this point are part of the personøs perceptual apparatus, and thus affect the way in which the speaker perceives other objects (1990, pp. 6-7). Using our pithy definitions from above, we can see how perceptual apparatus would indeed affect a locutionary agentøs imprint on the language he/she produces. To continue this basic example, a nearsighted person who is wearing glasses would give a different description of an object in the distance than another near-sighted person who is not wearing corrective lenses, and, thus, gives a different imprint on the language produced. If the glasses-wearer observed someone in the distance and talked about him, with descriptions of clothing, hairstyle, etc., these descriptions would likely be different than what the nearsighted non-glasses-wearer would produce. The point for this example is that the differences would not be *objective* differences, because the focus of attention is the same. According to Langackerøs definition, the differences would be *subjective*, because the differences produced are because of õoff-stageö disparities, i.e., the visual perceptions of the two observers.

Traugott, on the other hand, uses a somewhat different definition for subjectivity. For Traugott and her collaborators, subjectivity has more to do with the extent to which language is expressed within a speakerøs õsubjective belief state/attitude toward the

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proposition, in other words, towards what the speaker is talking about" (1989, p. 35). It is difficult to provide an example of Traugott's subjectivity without also discussing the process by which language gets more subjective over time, which will be touched upon in the next section. Instead, we will use two definitions of one word as related by Traugott herself. The word *boor* formerly meant "farmer," but now means "crude person" (1989, p. 34). One can see how, according to Traugott's definition of subjectivity, "crude person," as it requires a value judgment of the speaker, would be more subjective, i.e., more situated in a person's "belief state/attitude," than "farmer," which, after all, is merely a description of a person's profession.

The differences between Traugott's and Langacker's definitions of *subjectivity* are evident. Whereas Langacker's conception deals with the perceptual process and "viewing arrangement" (Athanasiadou *et al.* 2006), Traugott's has more to do with the involvement of the actual perception itself for a speaker, and his/her attitudes and beliefs. Although the general discussion of this paper will involve both Traugott's and Langacker's definitions, Traugott's definition will be more useful to the tasks at hand, and therefore will be discussed and utilized more in later sections.

Subjectification

I'd like to take a moment to discuss terms. The disparity of spelling between *subjectivisation* and *subjectivization* is an easy one to explain; '*ize*' is used in American English, and '*ise*' is used in British English ("British and American spelling," Oxford). However, it is difficult to see how the term *subjectivization/subjectivisation* came about at all, because the two main theorists in this area, Traugott and Langacker, both use *subjectification*. Though I found no explicit discussion of this subject during my research,

I am fairly certain that there is no meaning difference between *subjectivisation/subjectivization* and *subjectification*. In deference to the trailblazers in this field, I will use *subjectification* as my term of choice for this paper.

With a working definition of subjectivity, it should be fairly straightforward to describe subjectification. Stein (1995) describes five definitions for the term, which range from the use of õexpressive languageö to the more pragmatic definitions of Traugott and Langacker (pp. 129-130). Turning again to our pithy definitions from above, we can come up with a decent definition for subjectification: the process by which language becomes more centered on self or by which a speakerøs imprint on language becomes larger or more pronounced.

Traugott (1989) notes that the changes in meaning in language over time, e.g., broadening, narrowing, amelioration, and pejoration, often include subjectification, and the tendency is for meanings to shift in this direction, as opposed to language tending to become more linguistically objective. Consider the *boor* example. The meaning of the word pejorated from *farmer* to *crude person*, and, along with this change in meaning, the term also subjectified. As she puts it, õMeanings based in the external described situation > meanings based in the internal (evaluative/perceptual/cognitive) described situationö (p. 34). In other words, words whose meanings are externally verifiable will tend to shift in meaning towards becoming more based on a speakerøs perceptions or evaluations of them.

Subjectification of English Adjectives

There has been much research done in English subjectification since its popularization during the late 1980s by thinkers such as the aforementioned Traugott and Langacker,

and it has been applied to many aspects of the English language. It has been applied to the field of syntax, including, for example, long-distance *Wh*-movement (Verhagen, 2006) and syntactic cancellation (Company, 2006). Modality is another area which has been looked at in terms of subjectification, with Pelyvás (2006) looking at epistemic examples and Cornillie (2006) looking at subjectivity aspects of both English and Spanish modals. Kemmer (1995) and Brinton (1995) each discuss the subjectivity of English reflexives. A simple search of scholarly journals will reveal that there is much more subjectivity research than could be mentioned here.

What is of most interest to us at present, however, is the effect of subjectivity and subjectification on English adjectives, and some work has been done on this subject. Adamson (2000), for example, tracks the meaning of the word *lovely* over time, noting that it shifts in meaning from being more referent-oriented to being more speaker-oriented. As this happens over time, she also notes that the word *lovely* becomes more and more likely to appear on the left in a prenominal adjective string, a subject that we will revisit in an upcoming section.

Breban (2008) has done work regarding the subjectification and grammaticalization of the adjectives of difference, e.g., *different, distinct, several*, and *sundry.* Like Adamson, she argues that these words are moving õleftward.ö Instead of simply moving to the left within the prenominal adjective string, however, Breban argues that these words are shifting right out of the prenominal adjective string altogether, from being regular adjectives, to postdeterminers, to quantifiers (p. 264). Rather than Traugottøs perceptual definition of subjectivity, Breban here relies on Langackerøs definition. Grammaticalization, which involves the increasingly grammatical use of lexical items

(Breban, 2010), overlaps Langacker's definition of subjectification. The word *several*, for example, in the phrase *several crisp new bills*, has 1) grammaticalized and 2) subjectified because 1) it has now filled the role of *quantifier* and 2) it now lays the "ground" for *crisp new bills*. In other words, *several* has left the objective axis, which describes attributes of the object(s) it is modifying in a way that references the speaker as little as possible, and joined the subjective axis, which essentially involves the lens through which the object is viewed. Breban (2010) has also studied the grammaticalization and subjectification of English adjectives of comparison, e.g., *same, other,* and *identical*.

Prenominal Adjective Order

For native English speakers, the order in which prenominal (or attributive) adjectives are put is a topic that is seldom discussed or taught in formative English classes, and is not typically included in grammar books for native speakers of English. However, for non-native speakers of English, determining adjective order in attributive adjective strings can be problematic, and this subject is given no small attention from teachers of non-native speakers (Scheffelin 1971: 265). Despite the fact that adjective order is not typically discussed by teachers of native English speakers, there is very little variation, at least among certain classes of adjectives, regarding what order to put them in. Scheffelin (1971) performed a pilot study to determine how adult speakers of English would order adjectives in a string involving size, color, and material (what an object is made of), specifically the words *little*, *blue*, and *rubber*. Of the 90 participants, 89, or 98.9% ordered them as *little blue rubber*. The outlier was not a native speaker of English. While adjectives in an attributive string are generally put in a particular order, it should be noted that variation does sometimes occur. However, as Scheffelin (1971) notes,

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adjectives are put out of their regular order almost exclusively in marked speech, specifically to provide emphasis. To use her example, a native speaker of English might say *I want the* RUBBER *blue ball* instead of the usual order to indicate that he/she does not want the *blue* ball made of wood. Martin (1970) proposed that this emphasis, or change in cadence, indicates a separate õscan,ö or, in other words, the utterance is marked enough to require more processing to produce it. Because the markedness of an expression can affect the order of prenominal adjectives rather unpredictably, I will limit my discussion to unmarked prenominal adjectives.

If unmarked adjective order is so universal among native speakers of English, there must be a reason for it. In other words, there must be some underlying factor, or factors, that determine the order in which adjectives will appear in front of a noun. No small amount of research and thought has gone into this question, though some of these lines of research have remained dormant for quite some time (upwards of 30 or 40 years). Many of these latter theories have been refined or abandoned as new research is performed. I would like now to discuss a few of the different theories of English prenominal adjective order, including some that have been considered in the past. I will conclude this section with a discussion of what has generally been accepted as the best theory regarding prenominal adjective order: it will be no surprise to the reader that the premier theory of the day involves linguistic subjectivity. For the sake of discussion, a brief description of this theory is that prenominal adjectives in a given unmarked noun phrase lie on a spectrum, with pure objectivity sitting to the right next to the head noun and pure subjectivity sitting at the leftmost edge.

One of the only theories about English prenominal adjective order that does not delve
into the meanings of the adjectives in any way was put forth by Goyvaerts (1968). Word
length, he posited, determines the order of a prenominal adjectives, provided that the
adjectives are of õequal importance,ö though it is unclear what that phrase means in this
context. According to Goyvaerts, the longer the adjective, the closer it will be to the head
noun. Thus, *the long intelligent book* is preferable to *the intelligent long book* (p. 13).
One researcher, Wulff (2003), tested Goyvaertsø word-length theory in a corpus analysis
of adjective-noun triples (two adjectives followed by a noun) and found that taking
adjective length into account predicted prenominal adjective order at 15.66% better than
random (p. 251), a significant result but clearly not one that contains all the answers.
Instead of the example phrase mentioned a few paragraphs ago, *little blue rubber ball,*
which already does not follow Goyvaertsø theory, let us take the phrase *enormous
chartreuse tin ball.* It is clear to a native English speaker that *tin enormous chartreuse
ball* is incorrect, though it follows the word length theory, and it is doubtful that
Goyvaerts overlooked such examples himself. The solution likely lies in the
aforementioned phrase õequal importance,ö which may well tie in to the
objectivity/subjectivity theory, in that one could couch the õimportanceö of an adjective
in terms of how subjective/objective it is. In other words, if one broke down prenominal
adjectives into different classes (to be discussed later), and then ordered adjectives of the
same class according to this criterion, one might find more success. However, it must be
noted that Goyvaertsø example adjectives of *long* and *intelligent* would not belong to the
same class in any system of categorization I have seen discussed.

Another factor that has been proposed to affect prenominal adjective order is "nouniness" (Posner, 1986), which refers to the nominal character of an adjective, or, as Biber, Johansson, Leech, Conrad, & Finegan (1999) term it, how "nounlike" a modifier is. According to Posner (1986), one can determine the nouniness of a modifier by determining its likelihood of being used substantively; the more likely an adjective is to be used substantively, the closer to the noun it will be in a string of prenominal adjectives. For example, when perusing statues that are short, fat, and ugly, if a speaker would be more likely to say "Give me an ugly" than he/she would be to say "Give me a short" or "Give me a fat," *ugly* would have the most "nouniness." As a result, according to Posner, *ugly* would be closest to the noun in a noun phrase that contains all three adjectives, i.e., a *short, fat, ugly statue*. Wulff (2003) also analyzed this theory in her corpus study, and found that it did not predict adjective order in a significant way (p. 255), although her test methods may not have been ideal. Again, this theory may have merit, but perhaps only in its commonalities with the objectivity/subjectivity theory. It would stand to reason that an adjective that is more likely to be used substantively would be one that contains more objective characteristics, i.e., ones that derive from the head noun rather than from the speaker. In other words, to use Whorf's (1956) (to be discussed in the next paragraph) terminology, an adjective that contains more characteristics that are inherent to the head noun would be more likely to be used substantively for that noun because a normal speaker would realize that a listener would readily identify it by its objective characteristics, rather than characteristics that are based upon the speaker's perceptions of it.

The role of iconicity in prenominal adjective order was proposed by Whorf (1956), and it is generally recognized to be a precursor to the objectivity/subjectivity theory of English prenominal adjective order (Athanasiadou, 2006). The use of the term *iconicity* here refers to the *inherence* that a prenominal adjective contains in regard to the head noun. The more inherent to the head noun an adjective is, the closer in proximity the adjective will be to it. For example, if I were to look at the inherence of the adjectives *hideous* and *cotton* as they relate to the noun *hat*, it is easy to see that *cotton* (if the hat is indeed made of cotton) would be more inherent to the hat than would be *hideous*. The adjective *cotton*, or any adjective of material, is an excellent example of inherence, in that the hat, in this instance, needs no outside sources to determine what material of which it is made. Thus, it is almost perfectly *inherent* to the hat. The adjective *hideous*, if it is inherent to the hat at all, is certainly not as inherent to the hat as *cotton* is. The term *hideous* relies almost solely on judgment values and belief states that are outside the domain of the hat. Whorføs iconicity theory was published in 1956, which, one will recall, is well before English-speaking linguists were interested in subjectivity and subjectification. Thus, an inherent adjectiveøs attributes merely resided in the noun it described. Likewise, a prenominal adjective whose properties were considered non-inherent (or relatively so) were considered just that: non-inherent toward the noun. Where these adjectives got their properties, or, in other words, just what these properties *were* inherent to, was not a subject for consideration yet.

Building on the idea of iconicity and inherence as they relate to prenominal adjective order, Dixon (1977) proposed a scale into which English adjectives could be categorized. The scale items (p. 37) are shown in Table 1.

Table 1

Dixon's Scale of Adjectives

Value
Dimension
Physical Property
Speed
Human Propensity
Age
Color

Dixon averred that, in unmarked speech, prenominal adjectives will follow the order above, from left to right, in an adjective string (p. 38). The õValueö category, for which Dixon uses example words such as *good* and *bad* (p. 31), is the only item in the scale, for Dixon, that is speaker oriented, rather than referent oriented. Looking left to right along the scale, the categories appear to generally trend from more subjective to more objective, with a notable exception of õhuman propensity.ö The examples he gives for adjectives in this category, such as *generous, jealous, happy,* and *kind*, seem to be far more speaker oriented than object oriented, in that they rely heavily on the perceptions of the speaker.

At around the same time, Hetzron (1978) developed his own categorization scale for prenominal adjectives, and this scale is actually designed to be a spectrum of subjectivity/objectivity. The thirteen items on his scale (I have included an example adjective next to the more inscrutable categories) are shown in Table 2.

Table 2

Hetzron's Scale of Adjectives

Epistemic Qualifier (*famous*)
Evaluation

Static Permanent Property (*wide*)
Sensory Contact Property (*sweet*)
Speed
Social Property (*cheap*)
Age
Shape
Color
Physical Defect
Origin
Composition
Purpose/Destination (*ironing*)

Quirk, Greenbaum, Leech, & Svartnik (1985) were also among the first to suggest that prenominal adjectives followed a subjective-to-objective order, and later linguists have tended to agree. Adamson (2000), who tracked the meaning of the word *lovely*, notes that its shift in meaning, and specifically its change toward subjectivity, is accompanied by its leftward movement in a prenominal adjective string. Breban, whom we have discussed above, has also done extensive work regarding the õleftward movementö in adjectives as they become more subjective (2008) over time.

Cinque has done extensive work on the syntax of English adjectives. Below (Figure 1) is his representation of the cartography of prenominal adjectives (2010, p. 63).

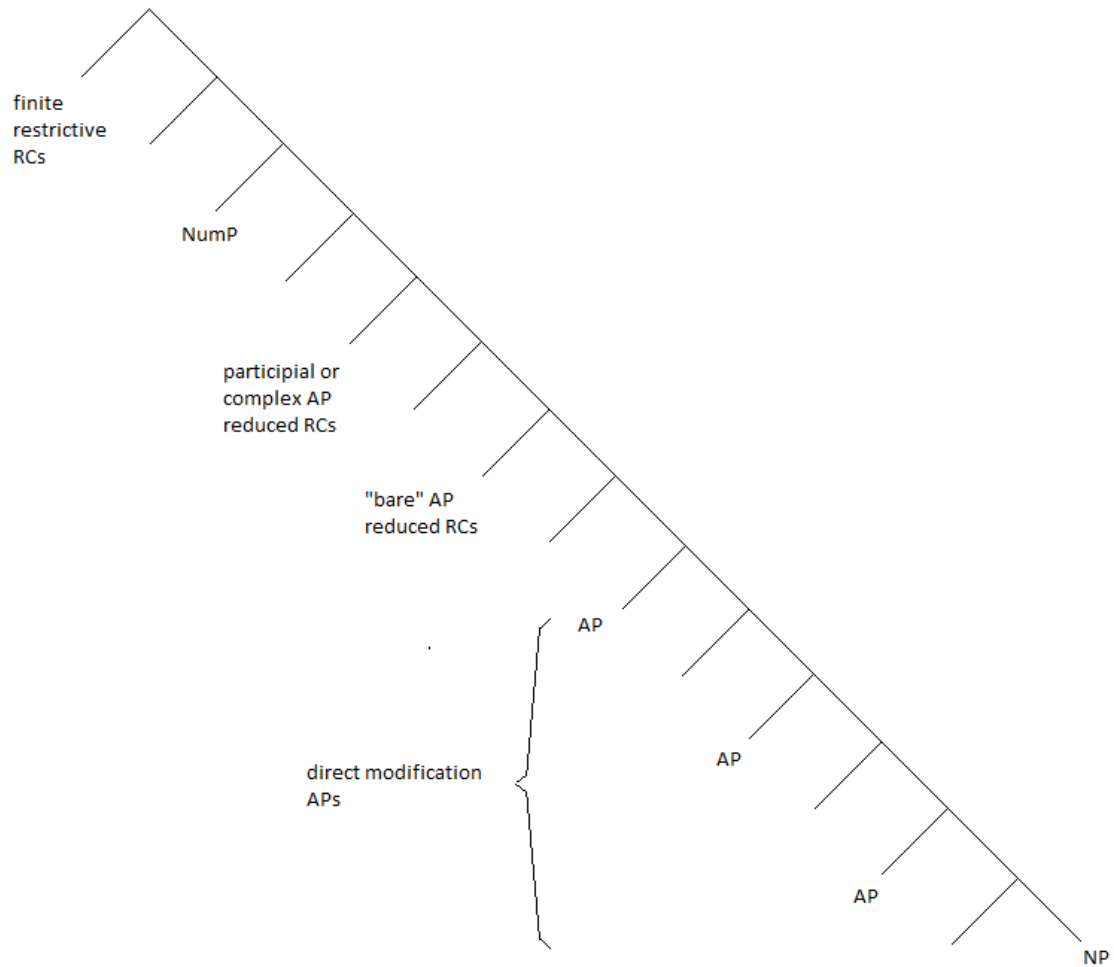*Figure 1.* Cinque‰s cartographic representation of the modifiers to a noun phrase.

Much of what appears above the õdirect modification APs" need not concern us here, as
it involves elements other than regular English adjectives. Adding the
subjectivity/objectivity theory of prenominal adjective order would involve simply
adding an objectivity/subjectivity categorization scheme, and would look something like
this (Figure 2):

finite
restrictive
RCs

NumP

participial or
complex AP
reduced RCs

"bare" AP
reduced RCs

AP [opinion]

AP [size]

AP [appearance]

AP [speed]

direct modification
APs

AP [age]

AP [shape]

AP [color]

AP [origin]

AP [material]   NP

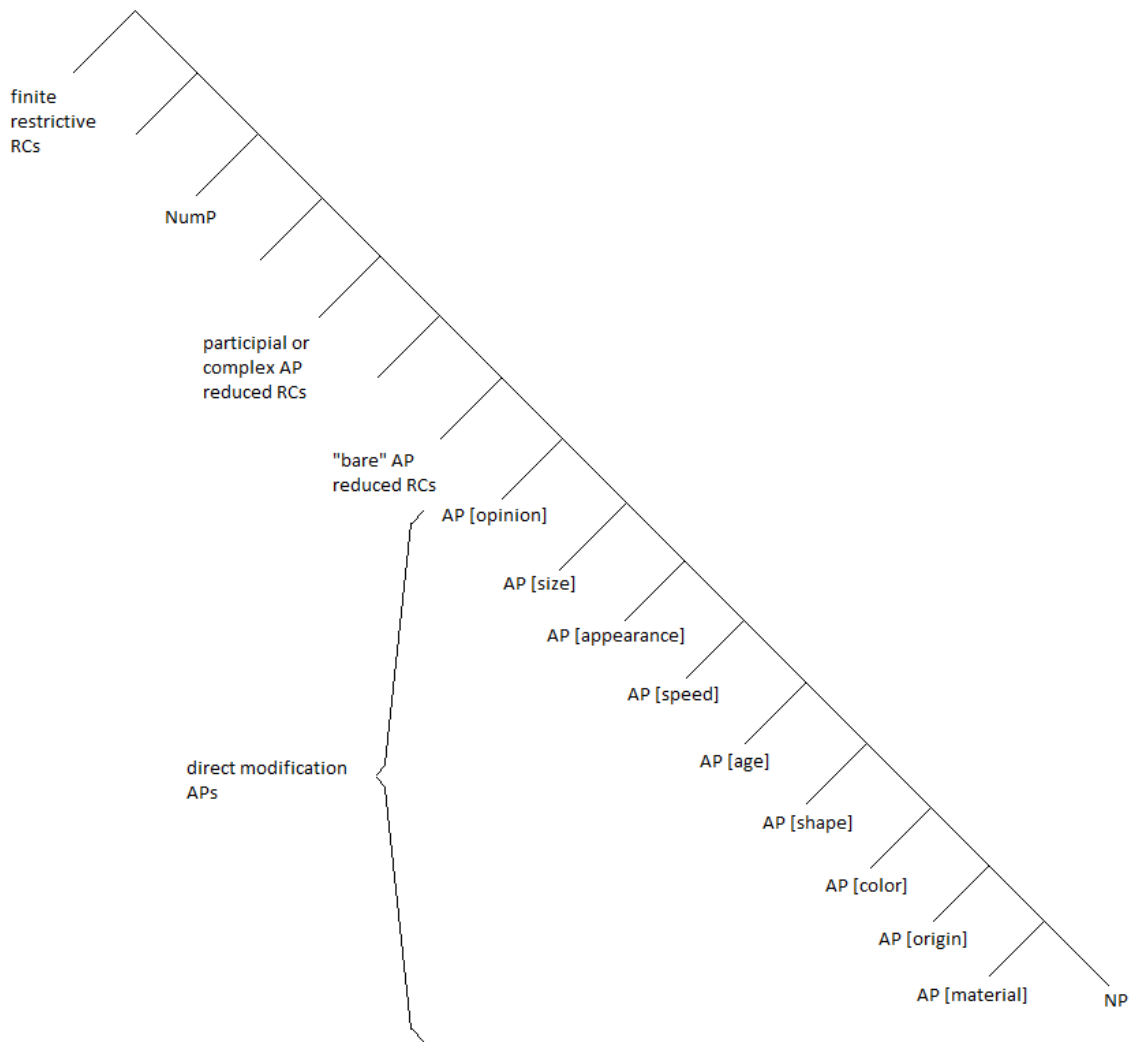*Figure 2.* Cinque¢s cartography, altered to include van Gelderen¢s (2010) adjective scale. The categories I used here come from van Gelderen 2010, which integrates a nice mix of simplicity and complexity, and which was used in the design of the survey discussed below. It should also be noted that Cinque himself considers there to be only a general order to unmarked English adjectives (2010, p. 58).

Chapter 2

METHODOLOGY

Two very different methodologies are employed for this paper to discuss the two

questions discussed in the introduction. The first question, regarding the subjectification

of English adjectives over time, will be explored through the use of dictionary definitions

and a corpus. The second question, regarding the effect of subjectivity/objectivity on

prenominal adjective order, will be explored using a survey of native English speakers.

Corpus-Based Study Methodology

To determine whether English adjectives tend to subjectify over time, I decided to first

select an adjective whose earliest definition was fairly objective, because any

subjectification, if it occurred, would be easier to track as it became more and more

speaker-oriented. Using the *Oxford English Dictionary* (OED) *Online*, I categorized the

definitions into more subjective and more objective categories, noting the dates which

indicated when each definition was first used in writing. I used other dictionaries as a

supplement to fill in and confirm details as necessary.

I then performed a search for the adjective in question, using the provided õadjectiveö

tag, on the Corpus of Historical American English (COHA), a 400-million-word corpus

that covers the time period 1810 through 2009. Results for searches are provided by

decade, for each adjectival use of the word, with a several words on each side of the

adjective for context.

I then picked a decade toward each end of the data available. 2000 through 2009 was the

decade used for the more current end; on the other end, I picked the decade, of the first

several, that had the most instance of the adjective, so as to get the best picture possible. I

then went through each use of the adjective and its context and tagged it according to the subjective/objective categories I identified earlier, using the OED. After the tagging was done, I calculated the percentage, for each decade, of the more subjective uses of the adjective. I then compared the percentages to see if the subjective usage had gone up between them. Finally, I discussed patterns specific to each adjective that I saw as I went through the tagging process, as they relate to subjectivity and subjectification.

Survey Methodology

In part 1 of this paper I discussed subjectivity, subjectification, the subjectification of specific adjectives, and prenominal adjective order and how it relates to subjectivity. When I had originally envisioned writing this paper, I had hoped to do a corpus study on the order of prenominal adjectives and how it relates to the subjectification of adjectives over time. However, doing this required data to be in the corpora that simply were not there. Although strings of prenominal adjectives of three words or greater definitely do exist in corpora, tracking specific adjectives as they subjectified over time (by their leftward movement) in these adjective strings was simply not possible, as long adjective strings are not the norm, and are usually considered marked speech. As the famed fictional detective Nero Wolfe told a woman who had come to his office, õYou use too many adjectives [í] For me it was cheap filthy little worm. Now, for you, it was conceited nosy little fool. Letøs just say foolí ö (Stout, 1995, p. 190). Because of these difficulties, I designed a survey that will hopefully allow us to look at how native speakers of English are currently ordering prenominal adjective strings, or at least how they order them when asked to do so.

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Study design. After an IRB-approved introduction and a few demographic

questions, respondents are presented with a series of questions designed to elicit how they

would order a given set of prenominal adjectives. Naturally, each adjective contains its

own degree of subjectivity and objectivity, but there is no clear way of determining

which adjective is more subjective or objective among similar adjectives. Consequently, I

chose adjectives that belonged to different categories for each question. After reviewing

several adjective categorization schemes, I decided to use the one found in van Gelderen

(2010, p. 181).

Table 3

van Gelderen's Scale of Adjectives

Opinion
Size
Appearance
Speed
Age
Shape
Color
Origin
Material

I used this categorization scheme because it was simple, comprehensible, and also

comprehensive. I rejected Dixonøs list, for example, because, among other reasons, it

does not include adjectives that describe the material of the noun being described (he

considered these items õpost-adjectival modifiersö (p. 37)). Hetzronøs (1978) list, on the

other hand, with items such as õsensory contact property,ö and thirteen items total,

seemed needlessly complicated.

A separate page containing explicit instructions was included before each of the three sections of questions to ensure that respondents read them without merely seeing the questions and answering them haphazardly. The first two questions have only three adjectives, and are designed to give more of a baseline/control to the study, to confirm that shorter adjective strings are virtually universally ordered in the same way. Scheffelin (1971), for example, as discussed in a previous section, achieved 100% agreement among native speakers when she asked them to order similar strings.

These questions are followed by two questions in which respondents are asked to order four prenominal adjectives, and then two questions in which there are five adjectives to be ordered. Overall, these questions were designed to test/confirm that the subjectivity/objectivity is indeed a significant factor used for prenominal adjective ordering.

In the next section, after a page with explicit instructions on what to expect from the questions that followed, respondents were presented with an adjective and a specific definition for the adjective. Respondents were then asked to order a short (three adjectives) prenominal adjective string that contained the aforementioned adjective, using that specific definition. For example, the adjective *green* is given with the definition õgreen: of a colour intermediate between blue and yellow in the spectrum; of the colour of grass, foliage, an emerald, etc.ö (õgreen,ö OED). Respondents are then asked, õusing the above definition for *green,*ö to order the adjectives *cloth, little,* and *green* in front of the word *bag*. In the next question, the word *green* is given, but the definition is changed: õgreen: of a product, service, etc.: designed, produced, or operating in a way that minimizes harm to the natural environmentö (õgreen,ö OED). Respondents are then

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asked, using the new definition, to order the adjectives *cloth, little,* and *green* in front of the word *bag*. These questions were designed to specifically test whether objectivity and subjectivity have an effect on the order of prenominal adjectives. If they do, the different definitions, one more subjective, and one more objective, should put the adjective at different spots within the phrase.

The last section, which also contains four questions, involves the use of invented adjectives. As in the preceding section, two different definitions for each invented adjective are given, one more subjective and one more objective. This section was included in the attempt to remove prejudicial ordering given to words whose objective definitions were more familiar than their subjective definitions, as might be the case with the word *green* and its color definition.

  Sampling. Because the only real criterion for study was that respondents needed to be native speakers of English, I did not feel the need for a strict sampling strategy. I created the survey online and shared a link to it using social media. I also asked that people share the survey with their friends on the social media site once they had taken it. There were a total of 57 respondents to the survey, 46 of whom ended up filling in at least a significant portion of it. About 70% of respondents were female, and 30% were male. There does seem to have been a decent spread in age. Fifty-one percent of respondents were between ages 18 and 34, 15% were between ages 35 and 50, and 34% were age 51 or over. Additionally, all respondents reported English to be their native language.

  Possible limitations/weaknesses. As is the case with any testing material that attempts to measure a cognitive process that does not normally involve conscious

thought, the survey may not provide an accurate picture of how respondents would actually arrange the prenominal adjectives given if they were to spontaneously produce the utterance. Additionally, respondents may produce a marked utterance that sounds reasonable enough in certain imagined circumstances, but is nevertheless not the unmarked order which we are seeking. In order to combat this, I emphasized throughout the survey that respondents should try to arrange the adjectives in the way that seems õmost naturalö to them. I hoped that this wording would encourage them to really think over their answers until they arrived at the best-õsoundingö solution to them. In addition, I made the format of questions and answers consistent throughout the survey so that different question/answer types would not skew the results.

Along these lines, another potential weakness affects four of the questions. These are the questions that ask the respondent to put four and five prenominal adjectives in order. While this number of prenominal adjectives certainly has the potential to be grammatically correct, and I made sure that the adjectives made sense together, it is a rare thing for this many adjectives to precede a noun. A search in the 450-million-word Corpus of Contemporary American English (COCA) for the very common adjective *good* followed by any three adjectives and any noun, for example, produced only 44 results (Davies, 2008). A search for *good* followed by four other adjectives and a noun produced only two results in the same corpus. Thus, the respondents may have trouble producing results that sound natural to them because a noun phrase that contains this many adjectives will likely never sound completely natural, no matter the order, because of its unfamiliarity. The amelioration of this weakness, I believe, lies in the expectations. In order to respond õcorrectlyö to these questions, respondents would likely have to have a

conscious, rather than unconscious, knowledge of how prenominal adjectives are ordered. As a result, the results for these questions must be viewed at least partially under that lens.

Another possible weakness with this study is that, being hosted online as it is, the instructions will not be given as much emphasis as they might in other circumstances. In other words, respondents may, if they so choose, forge ahead with answering the questions without reading the instructions, such as the one to use specific definitions for the adjectives. I have attempted to remedy this by, rather than simply giving instructions at the top of the page, giving the instructions for each section on an entire page previous to the section.

For the last two sections, respondents were asked to order adjectives for which they have been given specific definitions. Because everything besides the definitions is the same, respondents may produce different results because they think it is expected of them. In an attempt to ameliorate this concern, a set of two questions was added to act as a control. Different definitions for the same adjective are given, but the expected adjective order is the same. An analysis of the results of this question will hopefully shed light on whether or not respondents chose different orders merely because they thought they were expected to.

Chapter 3

SUBJECTIFICATION OF AN INDIVIDUAL ADJECTIVE

I used the methodology described in section 2.1 to study the adjective *green*. I believe the results discussed below are representative of the behavior of English adjectives over time. The word *green*, in a variety of forms, e.g., *groeni, groene,* has been in the English language for many centuries ("green," OED). Its first definition, as given in the *Oxford English Dictionary* (OED) online, is "Of a colour intermediate between blue and yellow in the spectrum; of the colour of grass, foliage, emerald, etc." ("green," OED). Normally informative, the *OED* is strangely silent as to exactly when *green*, under this definition, came to be used in the English language. *Merriam-Webster* online puts the date at "before 12th century," ("green," M-W) and this will have to suffice.

The definition for the color green would seem to be a fairly objective one, i.e., it does not rely on someone's individual judgments and perceptions to arrive at the conclusion that something is green. It may to some extent, but on the objectivity/subjectivity spectrum, this would seem to be squarely toward the objectivity side.

Although the adjective *green* has fourteen different definitions in the *Oxford English Dictionary* online, many of which have several sub-definitions, three are particularly relevant to its subjectification over time. The first is definition 8c, "Of person, or his or her powers or capacities: immature, raw, untrained, inexperienced" ("green," OED). According to the *OED,* the first citation for this use of *green* was in 1548. This definition seems to have more latitude for interpretation by the individual, and, hence, I argue that it is more subjective. Is an eight-year-old "immature, raw, untrained, inexperienced" ("green," OED)? It's likely that he/she is in most respects. However, is an eight-year-old

any of these things when compared to a two-year-old? Likely not, in this case. Thus, according to Traugottøs definition of subjectivity, it would seem that this definition of *green* is substantially more subjective than that referring to a color, in that in order to deem someone immature or inexperienced, one must draw from oneøs õbelief state/attitudeö (Traugott, 1989, p. 35).

The next two definitions for *green* are related to each other: õ13a. Of, relating to, or supporting environmentalism, esp. as a political issue; (also with capital initial) belonging to or supporting an environmentalist political partyö and õ13b. Of a product, service, etc.: designed, produced, or operating in a way that minimizes harm to the natural environmentö (õgreen,ö OED). The first citations for these related definitions come considerably later: 1973 and 1979, respectively. I would argue that these definitions are also toward the subjective end of the spectrum. To designate something or someone as *green* under these definitions requires a value judgment of the speaker. Is an electric car *green*? According to some, yes; to others, any machine that produces any emissions does not õminimize harm to the natural environmentö cannot be considered *green*.

As can already be seen, the most objective definition of *green*, the one referring to the color, came into English the earliest. The word then went through the process of broadening and, some four hundred years later, produced the definition that refers to newness or immaturity. Another four hundred years after that, the word spawned another definition, the one referring to environmentalism.

In the Corpus of Historical American English, the word *green* was used as an adjective about 41,000 times (Davies, 2010). In order to see a picture of how the use of *green* changed over time, I first looked at all the entries for the years 1830 through 1839. I

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picked these years because they comprised the first decade in which the number of entries exceeded one thousand. I found that, of the 1,209 uses of the word *green* as an adjective, it was used thirty times in a predominantly subjective way, all of which would fall under the õimmatureö definition. In other words, *green* was used subjectively about 2.5% of the time. I then looked at the years 2000 through 2009, during which, in the corpus, the adjective *green* was used 4,708 times. *Green* was used subjectively a total of 217 times, or 4.6% of the time. However, the õimmatureö definition was used only 21 times, or around .4%, a decrease of 84% from the earlier decade. Interestingly, the use of *green* in these contexts revolved almost exclusively around team sports and the military, which actually makes sense, given the traditional nature of these institutions.
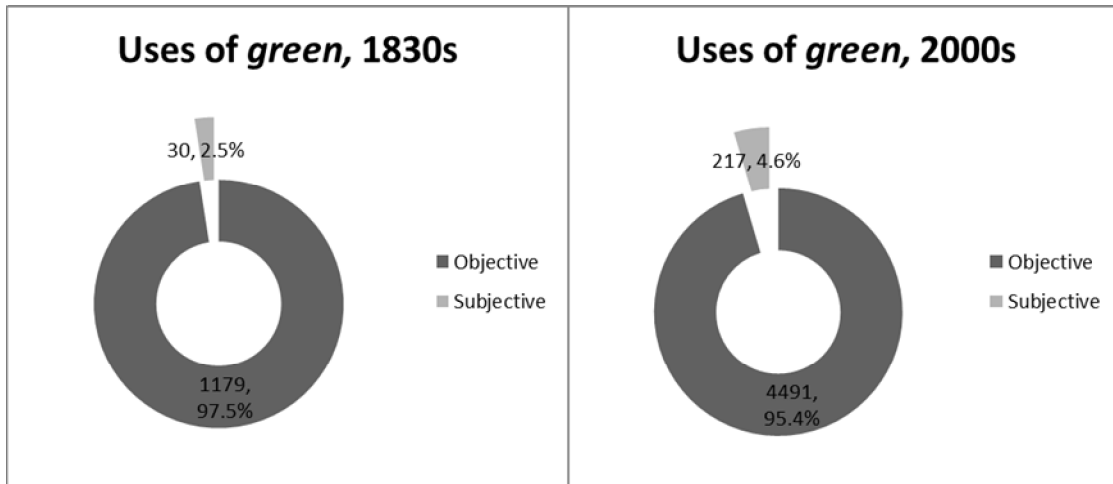

Uses of *green*, 1830s

30, 2.5%

1179, 97.5%

■ Objective
■ Subjective

Uses of *green*, 2000s

217, 4.6%

4491, 95.4%

■ Objective
■ Subjective

Figure 3. Subjective and objective uses of *green* in the 1830s and the 2000s.

The other, newer subjective definitions, having to do with environmentalism, comprised the remaining 196 subjective uses. Among these entries, I found additional evidence of the subjectivity and of the newness of this definition. Perhaps ten of the entries included quotation marks around the word *green*, indicating that the term was marked, possibly because it may be unfamiliar to the reader. Additionally, the words *very* or *not very*

preceded *green* fairly often in these contexts, which are degree markers and indicate personal stance and therefore subjectivity.

It is interesting that, while the subjective uses for *green* went up overall for the periods studied, the uses in the only subjective definition extant in the 1830s went considerably down. This speaks to me of the immeasurable complexity of language. The tendency that Traugott speaks of, that of meanings based in the external described situation tending to give way to meanings based in the internal described situation, seems to be true when looking at overall trends, i.e., a jump from 2.5% to 4.6%, but that doesnøt mean that the *same* subjective meanings will be around forever. An objective term for the color green will likely be around forever, as there will very likely always be things that are green. Likewise, there will always be terms that spawn from this term, but by their very subjective nature, as societies and viewpoints change, these subjective definitions will be far more ephemeral.

Please see the Tables 4 and below for samples of the more subjective and more objective uses of *green*, given with the contexts provided by COHA.

Table 4

More Subjective Uses of green

1830-1839	2000-2009
work of it. Only he prevents her -- only he; and yet the **green** fool never dreams it. Ha! ha! Well, let us see;	nation, advocating forest protection, water cleanup, recycling and nearly every imaginable "**green**" activity. # Domestic and foreign environmentalists have praised government actions such as these
There's philosophy for you, Pascalet. Your friend is not so **green** as you think, " said the chevalier, stepping into the boat. "	says, "and dramatically disturb the landscape." # Kochian's cost-effective "**green**ö technology uses

	plants to "vacuum" heavy metals from the soil through their
of his companions ere he could recover himself. " So, so, my **green** un! you must have quicker ears than this if you would serve King Billy	, only an extremely small percentage of certified land's trees goes to the õ**green**ö musical instrument industry. But also true is that only an extremely small percentage
soldier, and so am I; that's enough. We are not so **green** as to put a broadsword and a brace of pistols into the hands of a	, coal-burning industries account for the largest portion. # Refitting these industries with **green** technology would send a strong signal that the government intends to back up its environmentalist rhetoric
part with, even while I knew that I was behaving more like a great **green** boy, or a youthful poet crazy with such love as they retail in the	The replacements had been called Greenies from their first moment on the march, **green** troops, sent forward to rebuild the front-line units, fill the gaping holes in the
a woman, otherwise well educated, may be nothing more than a great **green** girl -- a great baby. Well sir, after a time, the lovers	. The libertarian Cato Institute complains that wind power is "not cheap and not **green**." It charges that renewable energy is, on average, twice as expensive
to the object of his visit -- how, in the assumed character of a **green** country bumpkin, he made it his ostensible errand to see a war-cannon, and	at least, making him thirty-five - or maybe even older. This was no **green** boy. This one was one-hundred-percent-pure grown man - every hard, muscled inch of
Tecum. Tecumseh Die! No me will not do it. Some raw, **green** boy, for pastime, may aim his arrow at thee. Tecumseh never yet	more than it does Christianity. The nuanced church message is lumped in with the **green** political agenda. " By being out front on a number of issues, NCC

Table 5

More Objective Uses of green

1830-1839	2000-2009
Richard!" cried a rosy little damsel on the platform, dressed in a **green** mantle and hood," Richard Leet, I would like to know	of winds that carry rain on one wing and drought on the other; of **green** trees and dry woods; of

how Alice	valleys and hills; singing birds in the air
with evergreen woods. In front, the ground was gradually descending, and the **green** slope was occasionally diversified with neat houses and gardens. A distinct view could also	being celebrities. They even felt they were better than all the neighbors' emerald **green** flowers. HATO One day, a bunch of purple flowers were planted in the
also my opinion, if he be so much affected at the sight of a **green** twig, he will go nigh to die of terror at the flash of a	them. But by then, the new flowers caught on to how unneighborly the **green** ones were. So when the residue arrived, the new ones did not drink
therefore that the poet's only dwelling should be in sylvan solitudes, under the **green** roof of trees. Beautiful, no doubt, are all the forms of Nature	is tall and thin, boyish. He is surrounded by a small shrine of **green** plastic toy soldiers. He is arranging them on the floor in various warfare poses
with chain bridges. These are the great themes of human thought; not **green** grass, and flowers, and moonshine. Besides, the mere external forms of	the color of mud. " " Your eyes are not muddy, they're **green**, " Esme corrected her. " And as for not being beautiful -- look
monarch, into green fields, a wonderous wretch and weedless,' to eat **green** herbs, and be wakened and chastised by the rain-shower and winter's bitter weather	the intense green of a deep river pool. Cole's hand closed over the **green** marble. It was as big as the tip of his thumb and surprisingly heavy
bay rum, brushed his hair, drove out the flies, and tacked a **green** curtain up to the window. Fifteen minutes after he was sleeping like a kitten	"Dad, if you think I am sitting next to you in a **green** T-shirt and tights, you're mad." He got all shirty like parents
stony hill past the Todd house, Pel took good care to expose a large **green** sleeve and the side of a white bonnet at the stage window. It	man. Six foot, three inches. Short, jet-black wavy hair. Clear **green** eyes. And a smile that made my knees go all spongy. He'd

Chapter 4

ENGLISH SPEAKER PERCEPTION OF PRENOMINAL ADJECTIVE ORDER

The methodology for the survey results below is described in previous sections. I will

discuss and analyze the questions and their responses below, focusing on how the

findings relate to the subjectivity/objectivity theory of English prenominal adjective

order. Please see the appendix for screenshots of the survey in its entirety.

Simple Ordering of Prenominal Adjectives

As mentioned above, the first two substantive questions of the study were fairly basic,

and not nearly as complicated as later questions in this part of the survey. Thus, the

expectation was that respondents would show a near unanimity of responses for the

õcorrectö order. The 4- and 5-adjective questions served a dual purpose: to test whether

respondents would select adjectives based on an objective/subjective spectrum and to test

whether respondents were generally able to use conscious processes to replicate what is

essentially a subconscious process.

      Small, old, tan. Respondents were asked to order the adjectives *old*, *small*, and

tan in front of the noun *basket*. Using our subjective/objective categorization, we would

expect an order of *small* (size) *old* (age) *tan* (color) *basket*. Because the words are all

common, and the number of adjectives (three) is not unusual, we would not expect much

variation, but that is not what the data show. The largest group did respond with this

order, but it was not even a majority; 22 of 46 respondents produced the õcorrectö order,

or 48%. The next highest group, with 30.4%, responded with *old small tan*, and *small tan*

old came in third, with 17%. There were also two outliers, who responded with two

additional variations (*tan old small* and *old tan small*). The clearest preference shown was

to put *tan* last, with 78% of respondents doing so. While the results from this question did

not exactly meet expectations, it is important to note that the largest group of respondents

did follow the subjectivity/objectivity gradient.

Little, round, rubber. In this question, respondents were asked to select the order

for the adjectives *round*, *rubber*, and *little* in front of the noun *ball.* The order we would

expect for this set is *little* (size) *round* (shape) *rubber* (material) *ball.* In this case, our

expectations are met; 40 of the 46 respondents, or 87%, chose the expected order. Three

of the respondents chose *round little rubber,* two chose *rubber round little*, and one chose

round rubber little.

Although our results are not as good as Scheffelin's (1971) 100%, respondents showed

clear favor for the expected result. The responses to this question also seem to provide us

with evidence that we were right not to use Dixon's (1977) categorization scheme. Three

of the respondents chose to mix *rubber* in with the other adjectives; under Dixon's

thinking, this would not have been possible, as he deemed words denoting composition to

be post-adjectival modifiers (p. 37).

Good, short, quick, English. The adjectives in this question were *English, short,*

good, and *quick*, used to modify the noun *runner*. Our expected outcome for this question

is *good* (opinion) *short* (size) *quick* (speed) *English* (origin) *runner.* Only 10 of the 44

valid responses (two used the same adjective twice and were rejected from

consideration), or 23%, produced the expected result, and this wasn't even the most-

favored response. The most-favored response, which 27% of respondents produced, was

good short quick English, a transposition of the middle two adjectives. The clearest

preference shown by respondents was to place *English* last, with 84% of respondents

doing so. Additionally, over half of respondents (55%) chose to place *good*, a clearly subjective adjective, in the first position.

As was discussed in the section 2.2.3, a noun phrase that includes four adjectives is an unusual phenomenon in English, and English speakers likely have difficulty finding a solution that sounds natural to them. What is interesting is that a majority of respondents either put *English* last or *good* first, with a full 50% of respondents placing the two ends of the objectivity/subjectivity spectrum in the expected way.

Nice, slow, round, green. This was the second question that included 4 prenominal adjectives, which were *green, slow, round,* and *nice.* The noun was *tortoise.* The expected order for these adjectives was *nice* (opinion) *slow* (speed) *round* (shape) *green* (color). There was considerable variation in the responses to this question. The expected order was produced by only 7 respondents, or 15%. Interestingly enough, as was the case with the previous question, the order picked most often by respondents (28%) involved a transposition of the middle two adjectives, i.e., *nice round slow green.* Overall, 29 of 46 (63%) chose *green* as the last adjective, 32 of 46 (70%) chose *nice* as the first adjective, and 20 of the 46 respondents (43%) chose both *nice* as the first adjective and *green* as the last adjective.

Again, this number of adjectives may have proved a bit overwhelming for the respondents. However, coupled with the previous question, the data may be starting to take shape. Respondents are showing a fairly clear trend toward the edges of the objectivity/subjectivity spectrum; the õfuzzingö of the data is occurring more towards the middle, where categories appear to be getting individually reordered.

Difficult, little, old, square, German. This is the first of the two 5-adjective questions. The adjectives, which were to modify the noun *puzzle*, were *little, old, German, difficult,* and *square*. The expected order, according to our categories, was *difficult* (opinion) *little* (size) *old* (age) *square* (shape) *German* (origin). Of the 45 responses to this question, 11, or 24%, were in the expected order, and this was the most-selected response. The next-most-selected response, with 6 selections, was *little old difficult square German*. The most-selected response for the first adjective was an even split between *difficult* and *little*, with 17 each. *German* was far and away the most-selected pick for the last adjective, at 28 selections (62%). Sixteen of the 45 respondents (36%) chose both *difficult* for their first adjective and *German* for their last adjective. If 4 adjectives were overwhelming, 5 adjectives must be downright bewildering. Still, it is encouraging to see that the expected order was the most-picked response. It is becoming clearer that longer adjective strings are complex entities to understand.

Sensible, new, brown, Guatemalan, leather. This is the second and final 5-adjective question. The noun to be modified was *loafers*, and the adjectives were *new, sensible, Guatemalan, leather,* and *brown. sensible* (opinion) *new* (age) *brown* (color) *Guatemalan* (origin) *leather* (material) was the expected order, and 4 of the 46 responses matched this (9%). This was the fourth-most-selected response. The most selected response, at 10, was *sensible new Guatemalan brown leather*, which may be a result of respondents taking *Guatemalan* to describe a kind of brown leather, rather than the loafers. Twenty-two of the respondents, or 48%, selected *sensible* to be the first adjective, which was the most-selected first adjective. *leather* was selected to be the last adjective 24 times, or 52%. Fourteen of the 46 respondents (30%) selected both *sensible* as their

first adjective and *leather* as their last adjective, which was the most-selected first and last adjective pair.

It appears that we have more of the same confusion with 5 adjectives in a row. As I intimated in the above paragraph, this question may be more confused by the inclusion of adjectives that typically go together in other settings, e.g., *brown leather* or *Guatemalan leather*.
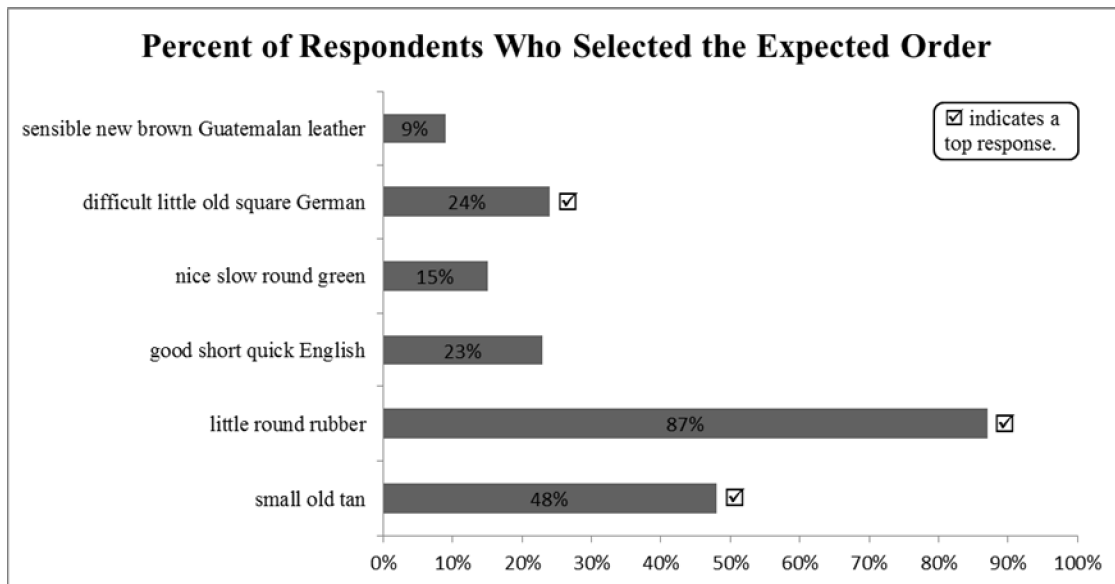

Figure 4. Expected order results for the first six questions.

Adjective Order with Different Definitions

Two of the questions in this section were designed to test whether an adjective would change position in a prenominal adjective string based on its definition. The next two questions were designed as a control. While both subjective and objective definitions are given for *stiff*, the expected order remains the same. We would expect that a more subjectively defined adjective would be located more to the left than its objective counterpart. The prenominal adjective strings were limited to 3 adjectives in order to

keep things simple, and each question was given its own page so that there was no confusion as to which definition was to be used.

Little, green, cloth. The first adjective to be tested was the word *green*. The more subjective definition, õgreen: of a product, service, etc.: designed, produced, or operating in a way that minimizes harm to the natural environmentö (õgreen,ö OED) was given first; the more objective õgreen: of a colour intermediate between blue and yellow in the spectrum; of the colour of grass, foliage, an emerald, etc.ö (õgreen,ö OED) was given next. For both questions, the adjectives to be ordered were *cloth, little,* and *green*, with the noun *bag*.

We will discuss question 8 first because it is the baseline question, i.e., the one with the definition of *green* that is used most often. The expected order of adjectives is *little* (size) *green* (color) *cloth* (material), and 70% (28 of 40) gave this order. The second-most-selected response, at 8 selections, was *green little cloth*, which is the order we would expect for question 7.

For question 7, where *green* is given the more subjective definition, *green* (opinion) *little* (size) *cloth* (material) is the expected order, and this was in fact the most-selected order, with 21 of 45 respondents selecting it (47%). The second-most-selected order was *little green cloth*, the expected order for question 8.

The results for this set of questions are exactly what were expected. The more-objective adjective was placed closer to the head noun in the adjective string by a majority of respondents. Then, the more subjective meaning of the word caused nearly 50% of respondents to move *green* to the left.
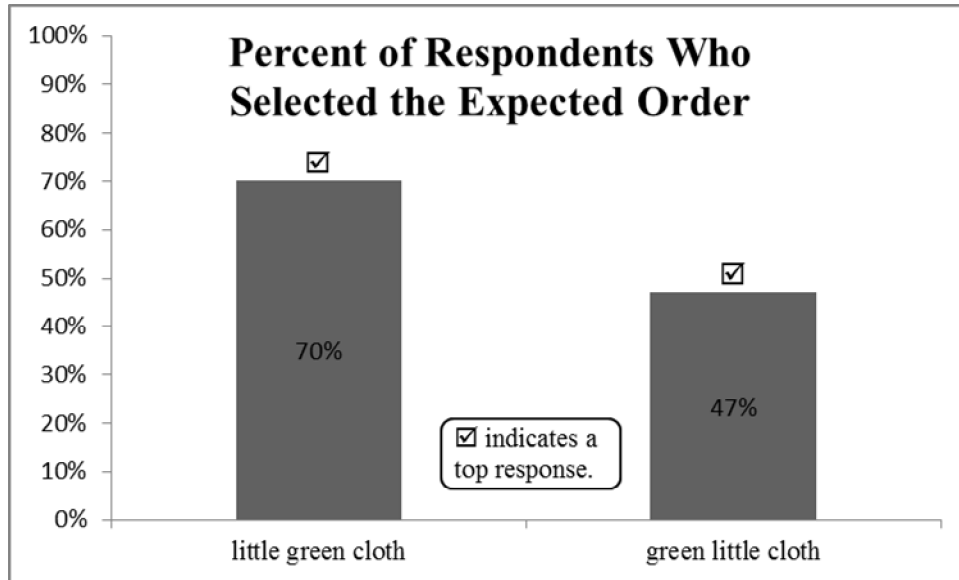
Figure 5. Expected order results for the adjectives *little, green,* and *cloth.*

Stiff, old, Japanese. As was discussed above, this question was included to act as a control. The adjectives in each question were *stiff, old,* and *Japanese*, with the nouns being *bamboo* in question 9 and *speaker* in question 10.

The definition given for *stiff* in question 9 was õstiff: rigid; not flexible or pliantö (õstiff,ö OED), the more objective of the two definitions. The expected order for this question was *stiff* (appearance) *old* (age) *Japanese* (origin). This order was selected by 18 of the 44 respondents (41%) for this question, but it was not the most-selected response. The most-selected response was *old stiff Japanese*, which had 21 selections (48%).

In question 10, the definition given for *stiff* was õstiff: formal, constrained, lacking ease or graceö (õstiff,ö OED), more subjective than the first definition. As was explained above, the expected order for this question is the same as it was for question 9, despite the fact that *stiff* shifts categories: *stiff* (opinion) *old* (age) *Japanese* (origin). This time *stiff old Japanese* was selected by 24 of the 44 respondents, or 55% of the time. *old stiff Japanese* was selected 13 times (30%).

Overall, only 39% of respondents selected the same answer for both questions, indicating a possibility that respondents felt some pressure to have different answers for the two questions. Interestingly, however, only two responses were selected both times by respondents, and they are the two responses that received the most selections in each category.

Invented Adjective Order with Invented Definitions

The questions in this section are similar to the questions in Section 2, in that respondents are asked to order the same 3 adjectives, with two different definitions given for one of these adjectives, one more objective and one more subjective,. The difference is that the differently defined adjectives are not actual words. My hope for these questions was to take away any conflicting or persistent connotations that respondents may associate with words with which they are familiar.

Butric, round, large. The invented adjective for these questions was *butric*, given with the other adjectives *round* and *large*. For each question, the noun to be modified was *figure*.

Question 11øs definition for *butric* was the more objective one: õbutric: composed of a rubbery substance.ö The expected response for this question was *large* (size) *round* (shape) *butric* (material), and this was by far the most selected response (30 of 43, or 70%). Additionally, *butric* was selected as the last adjective 38 times (88%), which would be expected of an adjective of the most objective category, i.e., material.

The definition for *butric* in question 12 was õbutric: having or characterized by strangeness,ö which puts it at the opposite end of the spectrum from its previous definition. Thus, the expected order for this question was *butric* (opinion) *large* (size)

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round (shape). The expected option for this question was selected 24 of 43 times, or 56%, with *large round butric* in second place, at 13 selections.

Of the 13 respondents who selected *large round butric* for question 12, 11 of them (85%) had also selected this response for question 11, which (aside from the possibility that their responses are indeed accurate) may indicate fatigue at this point in the survey. Additionally, even if respondents felt pressure to choose different answers to these pairs of questions, as may have been indicated by the responses to questions 9 and 10, there are clear and unequivocal majorities for the expected orders in both questions. This result indicates some support for the subjective/objective theory of prenominal adjective order, at least where pure definitions of a given adjective are concerned.

English, tiny, callen. This final set of questions tested the change in position of the invented adjective *callen.* The other two adjectives for each question were *English* and *tiny*, and the modified noun was *woman*.

õcallen: rapid; quick in movementö was the definition used for question 13, giving the expected adjective order of *tiny* (size) *callen* (speed) *English* (origin). Twenty-eight of 44 respondents (64%) selected this order, a clear majority, with the second-most-selected slot being a tie between *callen tiny English* and *tiny English callen* (7 each).

The more subjective definition in question 14 was õcallen: scatterbrained; overwhelmed by options,ö and the expected order was *callen* (opinion) *tiny* (size) *English* (origin). The majority opinion remained the same this time, however, with 56% of respondents selecting *tiny English callen.* The expected order was second, with 12 selections (28%). The results for questions 11 and 12 would seem to be at least somewhat negated by the results for these questions. A possible reason for this disparity of results could be what I

will call *adjacency of edge categories*. The adjective *tiny* and the subjective definition for

callen, in the *opinion* and *size* categories, respectively, which are right next to each other.

It is a possibility that adjectives that fall into these categories are sometimes flipped

because of the similarity in subjectivity/objectivity. I will discuss this concept a bit more
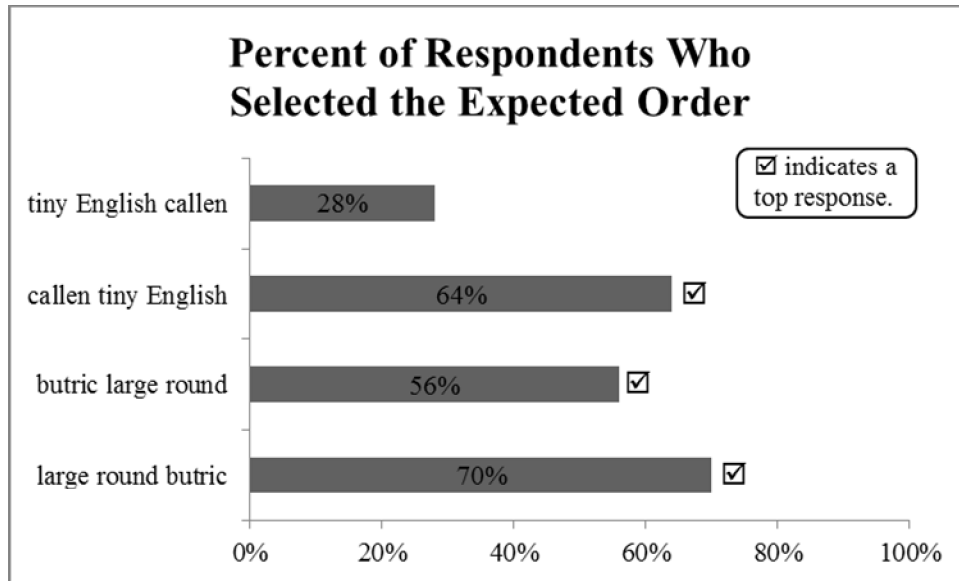
in the conclusion.

Figure 6. Expected order results for the final 4 questions.

Conclusions

Needless to say, the best result for this survey would have been either an unequivocal

confirmation of the subjectivity/objectivity gradient theory of prenominal adjective order

in English or undeniable refutation of it. It is hardly surprising, however, if a bit

disappointing, that the results are a trifle less conclusive than all that. Some of the

responses to the questions give convincing evidence for the subjectivity/objectivity

theory, while others give sometimes even more convincing evidence that other major

factors are at play. I think that, in all likelihood, the largest factor that contributed to the

somewhat inconclusive results of the study is the first possible weakness that I mentioned

in the section of the same name. That is, the respondents were asked to reproduce consciously a process that normally takes place entirely subconsciously. Several of the respondents volunteered comments to the effect that they thought the survey was õhardö or õlike taking a test,ö or expressed concern that they had õgotten everything right.ö Producing prenominal adjective strings is ordinarily an effortless procedure, not one that a person ordinarily agonizes over. This, I think, can be considered the biggest takeaway from this study: prenominal adjective order in English is something that occurs beneath the surface of conscious thought, and thus attempting to measure it at the conscious level is hazardous at best.

That being said, there were also a few interesting patterns I noticed while manipulating the data, mere tips of icebergs at the moment, but nonetheless possibly promising for future research in the field. The first one I discussed briefly in the last section, which I called *adjacency of edge categories*. In four of the questions, there were adjectives that filled two categories either at the subjective or the objective edge of the gradient. These were *good short, Guatemalan leather, difficult little,* and *callen tiny.* The pair *difficult little* I will leave for the next paragraph, as I think another factor affected the ordering of these two items much more than this one. For the first pair, *good* would be expected to occupy the first position, which it does in 24 of the 44 responses. *short,* on the other hand, is only down one category from the most subjective category, and I believe that it is for this reason that it can be found in the first position, deposing *good*, 12 times. *Guatemalan leather* is a similar pair on the other end of the spectrum. *leather,* the expected last adjective, holds that position for 24 of the 46 entries, with *Guatemalan* a close second at 19. Back at the subjective edge is *callen tiny.* However, in this case the

less subjective *tiny* has taken the more subjective position; it is in the first position 31 times, compared to *callen*øs 12. I believe this switching of adjacent edge categories is a result of the closeness in subjectivity between the two requisite adjectives.

Another pattern I noticed that seemed to fuzz the results a bit is a possible õclumpingö of the adjectives. What happens in this effect, I believe, is that two adjectives are used so often together that people stick them together perhaps even when they wouldnøt with other adjectives with similar meanings. *difficult little* is a pair that has adjacency at the subjective edge, but it did not follow the pattern of the other pairs above. Instead, when *difficult* was deposed as the front adjective, it seems to have been replaced by the *little old* adjective pair. *little old* appears 686 times as a pair in COCA (Davies, 2010), whereas *difficult little* and *little difficult* appear only 3 and 4 times respectively. *little old* takes the first two positions of the adjective string 13 of the 45 times, a significant proportion. As I mentioned in the previous section, *brown leather* is another adjective pair that may have õclumpedö together and skewed the results; *brown leather* appears together 234 times in COCA. In the survey, this pair occurs, in the same given order, at various positions in the string, for 36 of the 46 entries (78%).

The final pattern I noticed was the relative clearness of the edges of the adjective string, providing the other two patterns did not interfere. For the descriptions of the greater-than-3-adjective questions, I sometimes included the percentages of the responses that õcorrectlyö placed either and both of the adjectives we would expect to be on the edges of the adjective string. For example, in the adjective phrase *good short quick English*, only 23% of respondents chose the preferred response, but 84% of respondents put the preferred adjective (*English*) last, 55% put the preferred adjective first, and 50% put both

good first and *English* last. Similarly, for the next question, respondents chose the

preferred first adjective 70% of the time, the preferred last adjective 63% of the time, and

both 43% of the time. Results for the 5-adjective question are similar, though the

percentages are not quite as high.

To sum up, although this study did not provide any conclusive support for the

subjective/objective gradient theory of prenominal adjective order as a whole, it did seem

to identify patterns that warrant further study, namely the adjacency of edge categories

fuzzing, clumping of adjectives, and the relative clarity of edge adjectives. The other

avenue of further research I can see, which I alluded to in the first paragraph of this

section, would be to design a study that focuses more on the recognition of natural

adjective strings, or, even better, on spontaneous production of them, rather than selecting

the order of a predefined list.

Chapter 5

CONCLUSION

It is clear from the literature that subjectification is a process that occurs in language; human beings, such as they are, cannot avoid putting their own imprint on the language that they produce. The discussion here of the adjective *green* has shown that a relatively objective adjective will begin to spawn subjective meanings as time passes, though the usage arc of these subjective meanings may and likely will be shorter than the objective meanings.

The results of the survey show that English prenominal adjective order is not simply an insertion of adjectives onto a scale of objectivity/subjectivity, at least as far as it occurs on a conscious cognitive level for native speakers. However, the data do suggest that objectivity/subjectivity may be a major factor in the ordering of attributive adjectives, in addition to other factors.

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APPENDIX A

PRENOMINAL ADJECTIVE ORDER QUESTIONNAIRE

Adjective Order

Adjective Order in English

March 3, 2013

Dear Participant:

I am a graduate student under the direction of Professor van Gelderen in the Department of English at Arizona State University.

I am conducting a research study on the order of prenominal adjectives in English. I invite your participation, which will involve you placing adjectives in the order that seems most natural to you.

Your participation in this study is voluntary. You can skip questions if you wish. You may choose not to participate or to withdraw from the study at any time. You must be 18 or older to participate in the study.

Your participation in this study will help us better understand what makes English speakers choose to put adjectives in the order that they do. There are no foreseeable risks or discomforts involved with your participation.

This study is being conducted by a third-party website, and the only personal information that will be collected about you is what you choose to give on the first page of the study (ie, your age in a range, your gender, and whether English is your first language). Your responses will be anonymous. The results of this study may be used in reports, presentations, or publications, but your name will not and cannot be used because we are not collecting that information.

If you have any questions concerning the research study, please contact the research team at: lskarste@asu.edu or ellyvangelderen@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Sincerely,
Luke Skarstedt

＊1. By selecting "Yes" below, you agree that you are 18 or over, and give your consent to participate in the study.

◯ Yes
◯ No

Next

Adjective Order

This brief survey consists of three sections, one demographic and two substantive. There are a total of 18 questions. Each of the substantive sections has specific directions, so please take the time to read them and answer as best you can!

[Prev] [Next]

Adjective Order

2. Is English your first language?

○ Yes
○ No

3. What is your gender?

○ Male
○ Female

4. What is your current age?

○ 18-34
○ 35-50
○ 51 or over

[Prev] [Next]

Adjective Order

For the questions in this section, please arrange the adjectives in the order that seems most natural to you. For each question, select an adjective for each dropdown box. Each adjective should only be used once per question.

[Prev] [Next]

Adjective Order

5. Please arrange the adjectives in the order that seems the most natural to you.

old tan small

	1	2	3	
..	[▼]	[▼]	[▼]	basket

6. Please put the adjectives in the order that seems most natural to you.

round rubber little

	1	2	3	
..	[▼]	[▼]	[▼]	ball

7. Please put the adjectives in the order that seems most natural to you.

English short good quick

	1	2	3	4	
..	[▼]	[▼]	[▼]	[▼]	runner

8. Please put the adjectives in the order that seems most natural to you.

green slow round nice

	1	2	3	4	
..	[▼]	[▼]	[▼]	[▼]	tortoise

9. Please put the adjectives in the order that seems most natural to you.

little old German difficult square

	1	2	3	4	5	
..	[▼]	[▼]	[▼]	[▼]	[▼]	puzzle

10. Please put the adjectives in the order that seems most natural to you.

new sensible Guatemalan leather brown

	1	2	3	4	5	
..	[▼]	[▼]	[▼]	[▼]	[▼]	loafers

[Prev] [Next]

Adjective Order

In the next section, you will be provided with the definition for a specific adjective. You will be asked to use this definition in determining the order of the adjectives given.

Prev   Next

Adjective Order

green: of a product, service, etc.: designed, produced, or operating in a way that minimizes harm to the natural environment

11. Using the above definition for "green," please arrange the adjectives in the way that seems most natural to you.

cloth little green

	1	2	3	
---	---	---	---	
--	▢	▢	▢	bag

Prev   Next

Adjective Order

green: of a colour intermediate between blue and yellow in the spectrum; of the colour of grass, foliage, an emerald, etc.

12. Using the above definition for "green," please arrange the adjectives in the way that seems most natural to you.

cloth little green

	1	2	3	
---	---	---	---	
--	▢	▢	▢	bag

Prev   Next

Adjective Order

stiff: rigid; not flexible or pliant

13. Using the above definition for "stiff," please arrange the adjectives in the way that seems most natural to you.

Japanese old stiff

	1	2	3	
--	[▼]	[▼]	[▼]	bamboo

[Prev] [Next]

Adjective Order

stiff: formal, constrained, lacking ease or grace

14. Using the above definition for "stiff," please arrange the adjectives in the way that seems most natural to you.

Japanese old stiff

	1	2	3	
--	[▾]	[▾]	[▾]	speaker

[Prev] [Next]

Adjective Order

butric: composed of a rubbery substance

15. Using the above definition for "butric," please put the adjectives in the order that seems most natural to you.

butric round large

	1	2	3	
--	[▾]	[▾]	[▾]	figure

[Prev] [Next]

Adjective Order

butric: having or characterized by strangeness

16. Using the above definition for "butric," please put the adjectives in the order that seems most natural to you.

butric round large

	1	2	3	
--	[▼]	[▼]	[▼]	figure

[Prev] [Next]

Adjective Order

callen: rapid; quick in movement

17. Using the above definition for "callen," please put the adjectives in the order that seems most natural to you.

English tiny callen

	1	2	3	
--	[▼]	[▼]	[▼]	woman

[Prev] [Next]

Adjective Order

callen: scatterbrained; overwhelmed by options

18. Using the above definition for "callen," please put the adjectives in the order that seems most natural to you.

English tiny callen

	1	2	3	
..	⯆	⯆	⯆	woman

[Prev] [Next]

Adjective Order

Thank you for taking the time to complete the survey! If you have any questions or would like to contact me, I can be reached at lskarste@asu.edu.

[Prev] [Done]

APPENDIX B

IRB APPROVAL FOR QUESTIONNAIRE

Office of Research Integrity and Assurance

To:	Elly Van Gelderen
	LL
From:	*for* Mark Roosa, Chair
	Soc Beh IRB
Date:	03/04/2013
Committee Action:	**Exemption Granted**
IRB Action Date:	03/04/2013
IRB Protocol #:	1303008897
Study Title:	Adjective Order in English

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.