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Creative Neologism as a Dynamic Process in Language Evolution: A Case Study From English

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"For ill is ill, and good good still."
John Donne

1.0 Introduction and Summary

The research paradigm of generative linguistics makes essential use of the acceptability intuitions rendered by fluent, preferably native, speaker/hearers of a language in order to partition the class of possible linguistic sequences into those that are grammatical and those that are ungrammatical. However, it has often been pointed out that "acceptability" and that which it is intended to theoretically construct, "grammaticality", are not coextensive categorizations. Thus, Miller and Chomsky (1963) argued that multiply center embedded sequences should be analyzed theoretically as grammatical even though they are unacceptable on the basis of data.

More recently, linguists have extended the Miller-Chomsky proposal in characterizing a class of syntactic sequences that are acceptable although, it is argued, they should be theoretically analyzed as ungrammatical (Chomsky, 1970; Otero, 1972; Langendoen and Bever, 1973; Bever, Carroll and Hurtig, 1976). Clearly, the most parsimonious general rule in organizing a theory of language is to theoretically analyze "acceptable" sentences as "grammatical" and "unacceptable" sentences as "ungrammatical". Therefore, the Miller-Chomsky proposal and its recent extensions must be scrutinized carefully.

On the other hand, it is argued that there is good reason to study these misfit cases of acceptability and grammaticality. Miller and Chomsky (1963) argued that the study of grammatical but unacceptable sequences could reveal something about the ways in which performance systems limit manifest linguistic competence. Bever, Carroll and Hurtig (1976) argued that the study of acceptable but ungrammatical cases could reveal properties of creative neologism and the patterns of evolution in grammar. In this paper, I will suggest that studying both of these misfit classes diachronically can potentially provide a new source of evidence regarding the existence and nature of language universals. First, however, we turn to some concrete discussion of a particular construction from English and its synchronic and diachronic analysis in English grammar.

2.0 The Synchronic Analysis of "Good And"

2.1 Trying to Account for "Good And" in the Grammar

Example (1) illustrates the peculiar English "good and" construction.

(1) The waiters here are not good, but when it comes to the tip they are good and greedy.

Clearly, this usage must be distinguished from more typical instances of predicate adjective conjunction, as in (2).

(2a) The saints were kind and virtuous.
(2b) The house is old and brick.
(2c) The minister is good and honest.

On its primary interpretation, sentence (1) does not entail that the waiters are good. Sentence (2c), on the other hand, has a primary reading which does entail that the minister is good.

The logical relations inherent to forms like those in (2) can also be realized as prenominal adjective sequences, as in (3).

(3a) The kind virtuous saints ...
(3b) The old brick house ...
(3c) The good honest minister ...

However, the predicate adjective conjunction in (1), good and greedy, has no corresponding prenominal form, as demonstrated in (4).[1]

(4) ??The good greedy waiter ...

The problem to be dealt with, of course, is how to account for the peculiar asymmetries in (1) through (4) simply and generally within the theory of grammar. One alternative, which seems at first rather reasonable, is to analyze good and greedy in (1) as an idiom. It is characteristic of idiomatic forms that they are peculiar and unique. The problem with this account is that all of the adjectives in (5) fit very comfortably into the frame "good and Adjective" and manifest properties analogous to those of good and greedy in (1).

(5) old, stupid, skinny, loose, rotten, hard, tight, cold, slippery, warm, ready, horny, hot, long, early, high, dumb, dirty, steep, sick, fresh, bald, smart, red, silly, ripe, drunk, flat, ...

Analyzing good and greedy as an idiom is rather awkward since it requires us to invent the new category "productive idiom" without offering a way to constrain this notion. This account resultingly has limited theoretical interest.

A second possible analysis posits a difference in scope between the two "good and" examples in (1) and (2). The claim would be that in sentence (1) the adjective good has narrow scope (extending only to the adjective greedy). However, in the noun phrase in (2c) good has wide scope extending to its head noun. This analysis can account for the fact that sentence (1) does not entail that the waiter is good (i.e., "good and greedy"==>"good qua greedy"). However, it is not consistent with other data pertaining to the scope of adjectives.

As Quine (1960) noted, the noun phrase in (6a) is scope ambiguous: it can take a wide scope sense (as paraphrased by the sentence in (6b)), or it can take a narrow scope sense (as paraphrased by the sentence in (6c)).

(6a) The big European butterfly ...
(6b) The butterfly is big and European.
(6c) The butterfly is big for a European butterfly.

The facts for the forms in (1) and (3) are just opposite to this. The prenominal sequence "good Adjective Noun" is only acceptable with good taking a wide scope sense, while the predicate conjunction "good and Adjective" (c.f., (6b)) can be ambiguous as to whether good takes wide or narrow scope (e.g., as to whether the waiter is or is not good in (1) and (3)).

The semantics of (1) seems to cast good as a sort of degree adverbial (i.e., "the waiter is good and greedy"==>"the waiter is greedy to a good, or greater than average, degree").[2] This suggests a third potential account of the "good and" construction. In sequences like good and greedy in (1), good takes an "intensifying" sense, while in sequences like the good honest minister in (2c) it takes an "attributive" sense. Unfortunately, this treatment suffers the same problem of lack of generality as does the scope account. In prenominal position, intensifying adjectives are fully acceptable in their intensifier sense, as illustrated in (7a).

(7a) The bright red house ...
(7b) The house is bright and red.

However, when they occur in a predicate conjunction, as in (7b), they take an attributive sense. This is just the obverse of the facts for "good and": in the prenominal position the intensifier sense is unusual (c.f., (3)), while in a predicate adjective conjunction, good can take either the intensifier or attributive sense (c.f., (1) and (2c)).

This suggests a fourth possible account, namely that good and should be grammatically analyzed as an intensifying semantic constituent. In this account, a rule of semantic interpretation would assign the intensifier sense to the good and construction, even though the sequence good and does not correspond to a syntactic constituent. This rule presents some difficulty in that it is not independently motivated, but rather must be posited only to treat the "good and" data. In allowing rules of semantic interpretation to apply to sequences which are not syntactic constituents, it relaxes otherwise general constraints on what can count as a possible rule of semantic interpretation (see Katz, 1972). This weakens the theory of grammar. (Another difficulty with this solution is that it could not even be stated in a theory of grammar that does not distinguish semantics from syntax; e.g., Lakoff, 1971.)

A fifth account of the "good and" construction would consider good and to be a syntactic constituent, escaping some of the formal problems of the previous solution. However, several facts suggest that even this, and indeed any grammatical solution, would be undesirable. If good and is to be treated within the theory of grammar only a very ad hoc solution will succeed.

Assuming that good and is lexically an adverbial or a syntactically derived structure functioning as an adverbial, it is mysterious that the construction cannot freely appear in the diagnostic sentence-frames in (8) and (9).

(8) A not { a.terribly / b. awfully / c. quite / d. so / e. very / f. ?? good and } bald man entered.

(9) She was { a. terribly / b. awfully / c. quite / d. so / e. very / f. ?? good and } young to be in jail.

Although all of the established (i.e., grammatical) intensifiers may be inserted into these frames, the good and intensifier resists them, as indicated by its unacceptability in these environments.

It is also a mystery that the "good and" intensifier construction cannot appear freely prenominally. Many speakers cannot accept the sequence "good and Adjective Noun" at all, as illustrated in (3) and (10). (Good should, of course, be read in its intensifier sense in these examples.)

(10a) ?the good and sexy movie
(10b) ?the good and deadly poison

This is odd since nominal modifiers typically co-occur in both predicate adjective and prenominal positions (i.e., the movie is good and sexy==>the good and sexy movie). But even given this, there is a further mystery. Those speakers who can accept certain prenominal "good and Adjective" sequences, like those in (10), will generally not accept them unilaterally.

Restricting attention just to the predicate "good and" intensifier, the "Noun is good and Adjective" frame, the acceptability facts are puzzling. For example, adjectives with nasal segments in their initial syllables seem to be especially bad in the "good and Adjective" intensifier construction, as illustrated in (11).

(11) ?? good and { nonchallant, noxious, indolent, mild, nice, impassive, inarticulate, macabre, intelligent, mediocre, inebriated, nasty, near, ... }

(This fact has been experimentally established, see below.) In order to deal with such data in a grammatical treatment of the "good and" intensifier, it would be necessary to "look ahead" in a derivation and assess the phonological representation of an adjective before deriving "good and Adjective". This means that the rule that derives "good and Adjective" must be a global rule.

Indeed, the rule needed to derive the surface "good and" intensifier, may require transderivational power. Consider the sequence in (12).

(12) ?? This year the Jets have been good and bad.

The question-mark judgment refers, of course, only to the intensifier sense of good and. The attributive sense (i.e., the Jets have been both good and bad), is perfectly acceptable. Perhaps the perspicuous semantic polarity of attributive good and its contrary bad "forces" the attributive reading and accordingly reduces the acceptability of the intensifier reading for sentences like (12). But this would mean that in order to avoid deriving sentences like (12), with the "good and" intensifier, the grammar would have to take account of other potential derivations -- namely, the derivation of (12) with attributive good. Thus, if a construction "good and Adjective", with attributive good, comprises a conjunction of contraries, then the derivation of the construction "good and Adjective", with intensifier good and, is transderivationally blocked.

But this is not the worst of it. The rule which derives "good and Adjective" must also make reference to facts about word frequency. At the Linguistic Society of America's Summer Linguistic Institute in 1974 an experiment was conducted in which it was found that acceptability of the sequence "good and Adjective" (in its intensifier sense) correlated r = +.79 with subjective estimates of "frequency in speech" for the adjective alone across a series of 80 adjectives. (These adjective are given in examples

5, 11, and 13 in the text.) A matched sample design was used with ten linguistics graduate students serving as subjects in each of the two groups. The obtained correlation is statistically significant for $p<.0005$, meaning that the more frequent a given adjective is in speech (or the more frequent people think it is), the more likely it is to be judged as acceptable in the "good and" construction. It is not clear at all how such facts would be treated in even the most elaborate notions of grammar now being considered.

In this same correlational study of word frequency and good and acceptability, an interesting reversal was found for the four adjectives near, nice, nasty, and mild. For these four, word frequency (quite high) correlated with acceptability of "good and Adjective" $r = -.94$ (statistically significant at $p<.05$). This experimentally corroborates the judgments in (11) above.

Finally, there are additional empirical indications that good and should be classed with the well-established cases of extra-grammatical phenomena. In many cases, there appears to be a "squishy" range of acceptability associated with the "good and" construction. Informants usually accept all of the adjectives in (5) in the frame "good and Adjective" immediately and then gradually begin to accept more and more of the adjectives in (13).

(13) good and { derogatory, carefree, attractive, brilliant, original, long, vociferous, azure, obese, stodgy, greenish, revengeful, sexy, clandestine, small, responsible, rancid, certain, cadaverous, desirable, obscene, often, soft, stiff-backed, ridiculous, clairvoyant, reddish, slick, respectable, filial, emaciated, irate, breezy, large, fickle, dishonest, late, flippant, ... }

Such a "generalization gradiant" is commonly reported in investigations of extra-grammatical linguistic phenomena as in grasping the second reading of an ambiguity, as in (14a), or in parsing "garden path" sentences, as in (14b).

(14a) Murdering Cossacks can be horrifying.
(14b) The cows marched past the farmer stumbled.

In making this observation, we cannot claim to have accounted for the general phenomenon of generalization gradiants. However, even without such an account, we may note the phenomenal similarity of the acceptability facts for purportedly extra-grammatical cases like good and and generally accepted extra-grammatical cases like those in (14).

2.2 "Good and" as an Analogical Form

As an alternative, we can consider the possibility that the "good and" construction is ungrammatical even though it can be acceptable. This potentially avoids the problems noted in the preceding section, which are incurred when the acceptability of "good and" is given a grammatical account. However, it leaves open how good and comes to be uttered by people if it is not grammatically a part of their language.

Bever, Carroll and Hurtig (1976) attempted to characterize the process of creative analogy which allows speakers to utter ungrammatical sequences. They analyze analogy as an interaction of behavioral constraints on the use of language. "Optimal" linguistic productions should be easy to say, for the speaker, and easy to perceive and understand, for the listener. In trying to control behavioral complexity, the speaker may occasionally resort to the use of ungrammatical sequences, as in (15)

and (16). In sentences (15a) and (15b), the speaker seems to have "lost his place" in the course of producing the utterances.

(15a) ??I really like flying in an airplane that I understand how it works.
(15a') I really like flying in an airplane the workings of which I understand.
(15b) ??Harry and Bill didn't realize that each other was at the meeting.
(15b') Harry and Bill each didn't realize that the other was at the meeting.

When there are fully grammatical and synonymous alternative forms (as is the case for the examples in (15), namely (15a') and (15b')), these ungrammatical productions are accurately referred to as "speech errors". They are usually considered to be unacceptable (even by the speaker, on a moment's reflection).

However, another class of apparent "speech errors" present more of a problem for analysis. These forms are, like the "good and" construction, refractory to grammatical description but seem even on reflection to be fully acceptable. Bever et al. discuss examples of this type as illustrated in (16).

(16a) Harry will try and do it.
(16a') Harry will try to do it.
(16b) The three of yours's book will make you rich.
(16b') The book which was written by or belongs to the three of you will make you rich.

Bever et al. argue that (16a) is behaviorally less complex than the grammatical (16a'), and that (16b) has no alternate form (sentence (16b') is the closest).

Bever et al. refer to examples like (16a) and (16b) as analogical neologisms. That is, the forms in (16a) and (16b) are grammatically generated but they have been extended (by analogy) to take on new functions, and become thereby ungrammatical but acceptable neologisms. The form in (16a) is that of a verb phrase conjunction (c.f., Harry will try it and do it.). The form yours's in (16b) is also grammatical, as illustrated in (17).

(17a) My guitar's strings are rusted but your guitar's strings are not.
(17b) My guitar's strings are rusted but yours's are not.

However, when these forms analogically take on the functions of (16a') and (16b'), they are no longer analyzed by the system of grammar. They are accounted for by non-grammatical linguistic knowledge, namely, our knowledge about neologism and analogy.

Bever et al. relate the existence of examples like those in (16) to theories of language acquisition and the evolution of language. If there were no acceptable but ungrammatical sequences, the number of ways in which language could evolve would be severely limited: if every acceptable utterance is grammatical, then the only situation which could evoke grammatical restructuring would be the occurrence of grammatical but unacceptable forms. But by definition the occurrence of such forms ought to be rare, therefore it seems unlikely that they are the only stimulus for language change. Moreover, the way in which unacceptable grammatical forms would presumably restructure grammar would be to remove themselves from the set of generated forms. But such a restructuring would represent a net decrease in the expressive power of grammar. This does not seem to be an accurate prediction about the nature of language evolution.

Now consider the language-learning child. The experience of ungrammatical but acceptable sequences must be a commonplace for the child. Presumably, the child must construct a grammar of its language on the basis of a series of exemplars which it takes to be acceptable but which, by definition, must not yet be grammatical. As more and more of these cases are encountered, the grammar becomes elaborated.

In the case of the child's own productions, a similar analysis can be advanced. The child's language productions are, of course, defined to a great extent by his knowledge of the formal structure of his language. But his productions also seem to be structured by his knowledge about the set of utterances he has successfully decoded but not yet internalized as instantiating grammatical principles. In attempting to extend the expressive power of his developing language, the child makes use of the relatively small set of linguistic forms he has mastered by extending their use to new functions (Slobin, 1971). In many cases, these neologisms are simply way-stations and are superseded by adult forms. But in other cases, these acceptable, speakable, comprehensible but ungrammatical (by adult standards) forms may effectively become data for the child's developing theory of language structure, and for him may therefore ultimately become fully grammatical forms.

The child's acquisition of language provides the basis for a mechanism of linguistic evolution. On the one hand, ungrammatical (vis-a-vis adult grammar) sequences made available to the child as primary linguistic data may be misanalyzed as grammatical in his own emerging grammar. On the other hand, the child may spontaneously extend the function of grammatical forms he has mastered to new (and hence ungrammatical) linguistic uses (functions). These elaborations may also become incorporated into his developing grammar.

The sequence "good and Adjective" in the predicate position is a grammatically generated form. Good in such a construction has an attributive sense (recall (2c)). Therefore, a grammatical "source" for the "good and" intensifier construction exists in the language. On the creative analogy account, this independently generated form is analogically extended to have the intensifier sense. (The reason why this analogical extension occurs will be taken up in section 3 below.)

At the intonational level with respect to phonology, the "good and" intensifier is interpreted just as if it were a grammatically generated form.[3] A general rule of stress laxing applies to adverbial modifiers, as illustrated in (18).

(18a) New York City is pretty big.
(18b) The Queen's voice is moderately squeeky.

Thus, contrast the attributive sense of pretty in (19a) with its intensifier sense in (19b).

(19a) a tall pretty woman
(19b) a pretty tall woman

The intensifying sense of good and is (typically) destressed and shortened to <gvdn> (which we will henceforth write as good'n), which contrasts with the stressed attributive sense, as indicated in (20).

(20a) The waiters are good and greedy. (attributive)
(20b) The waiters are good'n greedy. (intensifier)

The creative analogy account of the "good and" intensifier does provide some initial resolution of the grammatically difficult data presented in section 2.1. For example, assuming that ungrammatical forms can become acceptable in virtue of an extra-grammatical process of creative analogy, it is not surprising that the acceptability of such forms is in part sensitive to word frequency facts. It is at least much less surprising of these forms than of supposedly fully grammatical forms. Further, the fact that for many people the "good and" intensifier cannot be fronted is less of a mystery if good and is in fact ungrammatical. Ungrammatical analogical forms certainly need not be obliged to undergo syntactic processes which are defined only for grammatical forms.

Since the intensifier good and is usually shortened and destressed to good'n and thereby distinguished from its attributive source form, anything which might "pull apart" this reduction might be expected to reduce the acceptability of the "good and" intensifier. We have already noted that the sequence "good and Adjective" is often bad when the Adjective in question contains a nasal segment in its first syllable. (Indeed, this observation was experimentally corroborated, as noted in discussion of example 11.) The existence of a nasal segment immediately following the "good'n" reduction tends to pull apart the intensifier reduction and therefore to make the latter more confusable with good and.

The reduction can also be compromised semantically. For example, we have noted sentences like (12) (repeated here as (21) with the good'n orthography).

(21) ??This year the Jets have been good'n bad.

The semantic polarity of attributive good, and its opposite bad, forces the attributive sense. The opposition of attributive good and its contrary is so perspicuous that sentences like (21) can be somewhat unacceptable.

Granting the general viewpoint of this section, an important question remains unanswered. Namely, why does good and exist in the first place? If it is an analogical neologism, in the sense of (16), what does it analogically replace? And, furthermore, why is it less behaviorally complex than that which it has replaced? What answers there are to these questions lie in the history of good and. To this we now turn.

3.0 The Diachronic Analysis of "Good And"

3.1 Assumptions

There are two assumptions which will structure the account of the history of good and to be presented. Both of these assumptions could be somewhat controversial. Nonetheless, not assuming something one way or the other about these issues would severely limit our diachronic analysis of good and.

3.1.1 The Tendency for "Good" to be an Adverb

It is quite a common property of languages that the adjective good has an allomorph which functions as an adverbial intensifier. Thus we have data like that in (22).[4]

(22a) La femme est bien cruelle. (French)
the woman is quite cruel
(22a') La femme est bien jolie.
the woman is quite pretty
(22b) Der Mann ist schön hässlich. (German)
the man is quite ugly
(22b') Der Mann ist schön ehrlich.
the man is quite honest
(22c) Oh ʧaŋgi xərab e. (Punjabi)

she quite bad is
(22c') Oh čəŋgi sohni e.
she quite pretty is
(22d) La mujer es bien attractiva. (Spanish)
the woman is quite attractive
(22d') La mujer es bien fea.
the woman is quite ugly
(22e) Mannen är bra ärlig. (Swedish)
the man is quite honest
(22e') Mannen är bra dalig.
the man is quite bad
(22f) Voh əcchi ləmbi həy. (Urdu)
she quite tall is
(22f') Voh əcchi lalči həy.
she quite greedy is

It is true that the intensifier sense for good does not obtain in all languages of the world (Japanese, Arabic and Greek are three exceptions), but the property may have the status of a statistical language universal. Good is a logical choice for an adjective to take a pure intensifier sense. It is the unmarked form of the general purpose evaluative adjective and therefore might be expected to take an intensifying sense without any presupposition of qualitative attribution (i.e., good has no reference). Our first assumption, therefore, is that there is a language universal tendency for an allomorph of the adjective good to realize a pure intensifier sense.

3.1.2 Prenominal Adjectives as Derived From Predicate Adjectives

The traditional approach to the derivation of prenominal modifiers in English (and related languages -- c.f., Arnauld and Lancelot, 1975), has been to generate them in copulative relative clauses and then to move them to prenominal position by means of a rule sequence of Relative Clause Reduction followed by Adjective Preposing (see Chomsky, 1957, pages 72-74; Stockwell et al., 1973, pages 500-501). Thus, we would derive a structure like "Adjective Noun" from an underlying form something like "Noun is Adjective".

The predicate adjective constructions in (22) are paraphrases of the transformational sources for the preposed forms in (23).

(23a) une bien jolie femme (French)
a very pretty woman
(23b) ein schon hasslicher Mann (German)
a very ugly man
(23c) čəŋgi sohni ti:vī (Punjabi)
very pretty woman
(23d) una bien linda mujer (Spanish)
a very pretty woman
(23e) En bra ful man (Swedish)
a very ugly man
(23f) əcchi ləmbi əwrət (Urdu)
very tall woman

(Note that these preposed forms are often ambiguous as to whether good is to be taken as an intensifier or as an attributive adjective, we will have more to say of this below.)

An alternative treatment of the derivation of prenominal adjectives has been developed by Jackendoff (1972, pages 59-62). In Jackendoff's approach, the two surface sequences "Noun is Adjective" and "Adjective Noun" are generated separately, and are not transformationally related. It would take us too far afield to thoroughly review the issues regarding these two alternative accounts of prenominal modifiers, but we can at least note that no clear choice exists. Jackendoff argues that his account allows one to draw the generalization that adjectives and -ly adverbs share certain formal properties. However, he admits that the transformational account would still be required in order to derive noun phrases with deverbal preposed adjectives (see Jackendoff, page 61; Chomsky, pages 72-75). Moreover, it is a mystery on his account why the occurrence of a sequence "Noun is Adjective" generally ensures the occurrence of a synonymous sequence "Adjective Noun". To an extent one set of generalizations is being traded for another (Jackendoff, 1972, page 62).

We will assume the traditional account of the derivation of prenominal adjectives for the purposes of discussion.

3.2 Three Stages in the History of "Good And"

3.2.1 Stage 1: Before 1350

In Old and Early Middle English there was an allomorphic form of good which took a pure intensifier sense. This form, wel, appeared freely in constructions like those schematized in (24) (recall (22) and (23)).

(24a) Wel Adjective Noun ...
(24b) Noun is wel Adjective.

It behaved like swiþe, the dominant intensifier word until circa 1250, as illustrated by the sentences in (25) (for further discussion see T. Mustanoja, 1960).

(25) Wæron her stronge cyningas and wel critene (c. 900)
were here strong kings and good Christian
Here were strong and good Christian Kings.
(25b) on wine wel scearpum (c. 1000)
to a friend good keen
to a good keen friend
(25c) His muð is ȝet wel unkuð wiþ pater noster and crede (c. 1220)
his mouth is still good unknown to the Lord's Prayer and Crede
(25d) Engelond his a wel god lond (c. 1297)
(25e) A lytill citee and a narrow, bot it es wele lang (c. 1400)

In fact, wel was the dominant intensifier word in English from circa 1250 to circa 1350 (see Mustanoja, 1960).

After 1350 the intensifying sense of wel gave way to intensifier forms like full and right. After 1400 wel and swiþe were extremely rare. The primary semantic sense of wel changed from something roughly paraphrasable by modern-day very or quite to something nearer to its present connotation of goodness and health. Only a few idiomatic intensifier uses of well remain (with non-deverbal adjectives), as in (26).

(26) well { worth / able / aware }

3.2.2 Stage 2: 1350 - 1600

In the early fourteenth century, new intensifier uses of the adjective good began to appear, as indicated in (27).

(27a) god long knif (c. 1300)
(27b) Noon oper has ham bitwene Bote gode stronge speres and kene (c. 1330)
None other has then between but good strong spears and keen

One might speculate that the transition from swiþe and wel to the new intensifier forms full and right potentiated a specific receptiveness for new intensifier words in English at this time. After wel lost its intensifier sense, English had no intensifier allomorphic with good, therefore, on the basis of the cross-linguistic principle stated in section 3.1.1, it is perhaps not surprising that another form of good adopted an intensifier sense.[5]

This use of good as an intensifier continued into the sixteenth century, as shown in (28).

(28a) some good strong clubbes (c. 1535)
(28b) some good prety skill (c. 1565)

Notice that the sequences in (28) seem to be potentially ambiguous between the intensifier and attributive senses of good. However, the editors of the Oxford English Dictionary analyze these sequences as having intensifier good. We return to the ambiguity issue below.

3.2.3 Stage 3: After 1600

The prenominal "good Adjective" form was common at the time of Shakespeare, as evidenced by the examples in (29) from his plays.

(29a) good blunt fellow
(29b) good sprag memory
(29c) good shallow young fellow
(29d) good gentle one

However, again it is quite difficult to say definitively whether these examples are examples of intensifier good or of attributive good. On the basis of context, it just isn't clear.

In any case, it is in Shakespeare that we find the first clear example of a new "good" intensifier, namely the "good and" construction of contemporary English. Shakespeare uses the form in a pun. In the first scene of the first act of the Merry Wives of Windsor (lines 96-99), Shakespeare entertainingly represents two gentlemen in the midst of discussing a greyhound which belongs to one of them. In the exchange, the first man praises the other's dog as "good". The owner, who has just acknowledged that the dog recently lost an important race, denies this praise and scorns the dog as a "cur". The second man then conjoins the attributions of goodness and fairness to conclude that the dog is "good and fair". The joke, of course, is that a dog that is "good and fair" need not be "good" at all.

(30) Shallow: ...'tis a good dog.
Page: A cur, Sir.
Shallow: Sir, he's a good dog, and a fair dog: can there be more said? he is good and fair.

3.3 Two Cases of Diachronic Analogy

3.3.1 Stage 1 to Stage 2

There is some reason to believe that the "good" intensifier forms at stages 2 and 3 are both analogical forms, that is, acceptable but ungrammatical analogical extensions of existent forms to a new function, namely the function of being an intensifying adverb. First, we will consider the transition between stages 1 and 2 which established the "good" intensifier as in examples (27) and (28). There seem to be two possible accounts of this change one of which can be described by purely grammatical processes and the other of which cannot.

3.3.1.1 A Grammatical Account

Old and very early Middle English had inflectional markings of case, gender, and number agreement between a noun and its modifiers. In this inflected system, the attributive sense of good would have been treated as an ordinary adjectival modifier and therefore would have been inflected to agree with the noun it modified. An intensifier good would have been treated as a monosyllabic adverbial stem and would therefore have only appeared with a single word-final -e. The examples in (31) illustrate the role of inflectional markings in specifying the constituency of attributive modifiers (the inflections are underlined).

(31a) hīe of•slōgon ānne ġeogne Brellisne mannan, swīþe æpelne (Anglo-Saxon)
they killed a young Briton of very noble birth

(31b) Mid twām gōdum þegenum (Anglo-Saxon)
with two good slaves

(31c) fela odre godre cnihte (c. 1126)
many other good knights

Note that both the adjectives and the article in (31a) are inflected to agree with the masculine, accusative, singular nominal mannan. Contrast these forms with the intensifying adverbial modifier swiþe, in example (31a), and (33a) below, which does not morphologically mark case, number and gender.

In inflected English, then, the possibility existed for a morphologically unambiguous prenominal "good" intensifier. This is what would have been expected had good simply been incorporated into the intensifier system when wel fell out of use. This would be similar to present day German where we find sentences like those in (32).

(32a) Das ist ein schöner ehrlicher Mann
he is a good honest man

(32b) Das ist ein schön ehrlicher Mann
he is a very honest man

(32c) ? Das ist ein schöner hässlicher Mann
he is a good ugly man

(32d) Das ist ein schön hässlicher Mann
he is a very ugly man

This account of the stage 2 prenominal "good" intensifier has the advantage that it does not require any notion of extra-grammatical neologism: it deals with the stage 2 intensifier examples of good as grammatical word formations routinely predicted by English inflectional morphology.

A problem with this account derives from the Relative Clause Reduction derivation of prenominal modifiers (section 3.1.2). If we assume this derivation of

adjectives, we must explain why it is that the sequence "good Adjective" never occurred in the predicate position with good in the intensifier sense. As indicated in (22) and (23) most languages with "good" intensifiers allow them both in predicate and prenominal positions, as predicted by the Relative Clause Reduction account. Negative evidence is always difficult to assess, it could just be that I missed these examples of good as an intensifier in the predicate position, or that the texts were lost, or any number of other things. Nevertheless, the lack of even one example is disturbing. A second account of the fourteenth century prenominal "good" intensifier relies on the principle of creative analogy.

3.3.1.2 A Neologism Account

In early forms of English, sequences of the form "Adjective Adjective Noun" did not occur. Iterated attributions were expressed in post-positioned conjunctions, as in (33).

(33a) Wæs he swiþe æþelra gebyrda and godra (c. 971)
was he very noble birth and good
He was of very noble and good birth.
(33b) pū gōda pēow and ge•trēowa (Anglo-Saxon)
thou good servant and faithful
thou good and faithful servant

This word order constraint broke down in Middle English, however, and eventually permitted "Adjective Adjective Noun" sequences. Thus at about the time that swiþe and wel dropped out of use, forms superficially identical to those in (27) and (28) began to appear anyway. Thus, a good long knife, as in (27a), could have been grammatically generated with good taking an attributive sense.

Following the principle of creative analogy, outlined in section 2.2, "Adjective Adjective Noun" forms like good long knife provide potential sources for a "good" intensifier. That is, the grammatically generated good long knife with attributive good, could be extended analogically to fill the intensifier gap created by the disappearance of wel. We know at least that the prenominal intensifier sense of good did begin to appear in English, and just at about the time that the shift in word order constraints began to allow grammatical iterations of prenominal attributive adjectives.

But this analysis of the stage 1 to stage 2 transition, raises other questions. Why, for example, wasn't another allomorph of good selected as the new intensifier? In particular, why wasn't goodly the analogical replacement for wel. Goodly at that time was a grammatically generated form and therefore ought to have been available to the processes of creative analogy. However, it did at that time, and indeed always did, connote "goodness", as illustrated in (34).

(34a) the goodliche wordes of dame Prudence (c. 1385)
(34b) she wolde alwey so goodely (c. 1385)
(34c) any goodly word (c. 1385)
(34d) a goodly person (c. 1595)

The form good may have been semantically more unmarked than the form goodly. Perhaps the semantic distinctiveness of goodly was an obstacle to its taking on new analogical senses via creative analogy.

Another possibility is that grammatical forms can be extended via creative analogy more easily when they are recent acquisitions of a language. Thus, circa 1350, prenominal good in the sequence "good Adjective Noun" would have been more

susceptible for analogical extension to the intensifier function than the more established form goodly. Unfortunately, there is no independent way to assess either of these possibilities within the context of a single case study.

The account of the prenominal stage 2 "good" intensifier, based on the principle of creative analogy, would assert that with the decline of the wel intensifier, another form of good was inserted into the English intensifier system. The unmarked form good was selected. The structure "good Adjective Noun" was independently available (grammatically generated) due to the recent relaxation of word order constraints and derived from some structure like "Noun is good and Noun is Adjective". This form was extended in virtue of creative analogy to take on the intensifier sense.

3.3.2 Stage 2 to Stage 3

Whatever analysis is adopted for the first transition, it is a fact that "good Adjective Noun" sequences occur in English during stage 2 with the intensifier sense of good. Another fact is that in the late sixteenth century, the modern "good and" intensifier appears. A striking example of this was given in (30). We cannot really say why the prenominal "good" intensifier declined to be replaced by the predicate "good and" intensifier, although ambiguity is a possible motivation.

We have noted above in discussion of examples (23), (28) and (29) that "good Adjective Noun" frequently seems to be ambiguous between intensifier good and attributive good. The editors of the Middle English Dictionary analyze (35a) and (35b) as intensifier instances, but (35c) as an attributive use.

(35a) Gōde olde fyghtyng was there (c. 1400)
(35b) a goode high wal with toures (c. 1448)
(35c) seth in good old ale (c. 1450)
(35d) gōde faire Whyte (c. 1390)

Indeed, (35d) may be a pun. From the context, one might assume on reading gōde that Chaucer is observing that Whyte was a gōde wif, a "good woman", or, somewhat sarcastically, "not a whore". However, the text is not gōde Whyte, but rather gōde faire Whyte. Now, the reader must consider the intensifier sense of gōde. Resultingly, it is not clear whether Whyte is indeed a gōde wif (a virtuous woman) who is also "fair", or merely a woman who is rather fair (but not necessarily a gōde wif). (It is curious that Shakespeare's pun turns on a rather similar point of confusion, recall (30).)

It is possible that the apparent potential ambiguity of forms like those in (28), (29) and (35) presented enough behavioral complexity for speakers and listeners of stage 2 English, that a new intensifier form was recruited. One must concede two points, however. First, the stage 3 predicate "good and" construction is also a potential morphological ambiguity. Second, the devices that work to effectively disambiguate the stage 3 "good and" construction, namely stress, phonological shortening, and context of use, or comparable devices, would presumably have been available to disambiguate the stage 2 prenominal "good" intensifier.

One might want to say that language change is "blind", in a sense, and that given sufficient motivation (e.g., behavioral complexity of some sort), creative neologism blindly applies, selecting a new form which may or may not even be an improvement over the old rejected form. On this view, it is immaterial that the stage 3 predicate conjunction "good and" intensifier admits of ambiguity in just the sense that the stage 2 prenominal "good" intensifier does. Unfortunately, as before, this hypothesis cannot be independently assessed in a single case study.

Another question regarding the stage 2 to stage 3 transition is why the predicate conjunction, and not some other potentially available allomorph of good, was selected. Three other possible forms suggest themselves. First, a prenominal "good'n" intensifier, as illustrated in (36b). Second, a new "well" intensifier, as in (36c). Finally, a "goodly" intensifier, as in (36d).[6]

(36a) The waiter is good'n greedy.
(36b) The good'n greedy waiter ...
(36c) The waiter is well greedy / The well greedy waiter
(36d) The waiter is goodly greedy / The goodly greedy waiter

The use of goodly as an intensifier at the turn of the sixteenth century would have been an unlikely solution for two reasons. First, goodly, as we have noted before, always had "goodnesses" as part of its semantics. Having been passed up in stage 2, it was also passed up in stage 3. Secondly, at the turn of the sixteenth century goodly was already becoming an anachronism, and simply does not exist in present day English. The first of these reasons also applies to well. By the turn of the sixteenth century, well also had "goodnesses" as part of its semantics. This leaves the prenominal good'n alternative, as in (36b).

The prenominal conjunction, like the predicate conjunction, is independently generated by the grammar, as in (37).

(37) gode and vsuell money of England (c. 1426)

In fact, the only difference between the two, following our assumption of Relative Clause Reduction derivation for prenominal modifiers, is that in the case of the prenominal conjunction, an extra rule of modifier preposing must apply (relative to the predicate conjunction structure for which this rule does not apply). Hence, while no real argument predicts the predicate conjunction solution over the prenominal conjunction solution, perhaps, from the fact that the former was selected, we learn that more basic, less derived forms are preferred as analogical solutions. (Note, in particular, that the grammatical "source" for the stage 3 intensifier, the predicate conjunction structure, is itself a less derived paraphrase of the grammatical "source" for the stage 2 intensifier.)

3.4 Related Cases of Analogy

The preceding discussion suggests some characteristics of creative analogy, namely that it selects a existent form and assigns it a new meaning (or function), one which it would not have on the basis of its grammatical analysis. Further, it may be that forms whose semantic properties are less distinctive may take analogical senses more easily (in particular, that unmarked and general adjectives most easily take pure intensifier senses), that recent acquisitions of a language are most available for analogical extension, and that less derived forms are the ones first considered (or preferred) by the processes of analogy.

A further question is what status these processes of creative analogy have in subsequent instances of neologism. That is, once an analogic form has become established in the language is it in any sense an "extra-grammatical" rule? Carroll and Tanenhaus (1975) suggested that much of what has been called the "word formation component" (Halle, 1973) of the grammar in fact consists of extra-grammatical "rule-schemes" for lexical item creation. Carroll and Tanenhaus argue that word formation rules cannot be stated within the theory of grammar and that indeed they should not be stated in theory of grammar. One of their arguments is that word

formation rule-schemes appear in a language diachronically as "fads". That is, a rule-scheme appears, by means of it several new lexical items are created, which may or may not become permanent words. Ultimately, the rule-scheme disappears, usually leaving only a few new words as its epitaph.

Assuming the construct of rule-schemes, we might ask whether the "good and" process of creative analogy was in any sense productive in English. If another adjective had developed a semantic sense of good (unmarked and general), would it have formed a "good and" intensifier. In at least two cases, this has apparently happened.

In Old English the adjective pretty had as its primary sense something paraphrasable as "cunning". From the fifteenth to the eighteenth centuries, however, it came to be a general epithet of admiration and appreciation. Thus (38) could be glossed as "good men", "nice men", or "fine men".

(38) praty men (c. 1400)

By the middle of the sixteenth century we find an example of pretty used as an intensifier, as in (39).

(39a) pretie hardie felow (c. 1565)
(39b) pretty cunning sleights (c. 1625)

Finally, by the early seventeenth century we find the "pretty and" construction, taking the same intensifier sense as the "good and" construction, illustrated in (40).

(40a) pretty & sharp (1615)
(40b) pretty & warme (1633)
(40c) pretty & cleere (1633)

There no longer is a "pretty and" construction in English although pretty maintains its intensifier sense. Generally, when the word appears before a noun it has the attributive sense (which now means "somewhat attractive"), and when it appears before an adjective it functions as an intensifier. (It also has a slightly different stress pattern, see example (19) above and discussion.)

Nice provides a far more recent example of the same process. Until the mid-eighteenth century nice actually connoted negative properties. However, in the latter part of the eighteenth century nice became a general epithet of approval and appreciation. By the middle of the nineteenth century we find the "nice and" construction appearing in print as in (41).

(41) You'll be nice and ill in the morning. (1846)

Indeed, nice and is quite common in modern colloquial English. The alternative form nicely still does exist in English, but it, like goodly connotes "nicenesses" and is less acceptable than nice and as an intensifier.

(42a) Well, Marc Antony is nice and horny.
(42a') ??Well, Marc Antony is nicely horny.
(42b) The guards here are nice and stupid.
(42b') ??The guards here are nicely stupid.

4.0 Language Evolution: A Hypothesis About Lexical Structure

The traditional distinction between "competence" and "performance", and more particularly that between "grammaticality" and "acceptability", can provide some initial motivation and machinery for a dynamic model of language growth and evolution. From such a viewpoint, our formal knowledge about the structure of language competes with the exigencies, needs and limitations of language use. This dialectic analyzes certain fully grammatical forms as unacceptable and certain acceptable forms as ungrammatical.

Presumably, language-learning children of each succeeding generation attempt to optimize the "fit" of the grammar they construct to the primary linguistic data they encounter. Thus, there will be a tendency over time for grammar as an epistemological structure to evolve so as to bring more forms under the grammatical category. However, by assumption, the processes of creative analogy reiterate and again bring the synchronic state of language as it is used into disequilibrium with the synchonic state of grammar. Previous investigations of "misfitting" forms (i.e., grammatical but unacceptable or acceptable but ungrammatical) have limited themselves to the synchonic state of contemporary language. But this limits what they tell us about the underlying nature of the dialectic between language use and language structure.

In a study of the history of English relative clauses, Bever and Langendoen (1971) attempted to characterize the role of language perception in the evolution of grammar. In their analysis, when the expanding inflectional paradigms of early Middle English declined, word order constraints emerged which were predictable on the basis of behavioral principles of language comprehension. Presumably, then, there was a time when language learning children accepted uninflected sequences which were perceptually analyzable (in virtue of word order) but ungrammatical according to the current adult grammar.

However, linguistic evolution is apparently not always that simple. Multiple embeddings have been grammatically possible in English over many centuries, and have remained unacceptable. Such cases may simply represent counterexamples to the dynamic evolution model of language, but they could also represent a new type of evidence bearing on the universal nature of language. If some property of grammar (in this case its capacity for unlimited center embedding) has been in conflict with the behavioral implementation of language for centuries and yet has not withered, that property must be central to what language is. Indeed, many linguists would claim, on the basis of other evidence, that recursiveness is a defining property of what language is.

This brings us back to the "good and" construction. Like the case of recursive embedding, and unlike the Bever and Langendoen analysis of relative clauses, the "good and" construction seems to be a misfitting of acceptability and grammaticality that has not been equilibrated. On the analysis presented here, the "good and" intensifier of modern English has been an acceptable but ungrammatical part of the English language since the time of Shakespeare (in fact, even its direct ancestor form is arguably acceptable but ungrammatical, see section 3.2.1). There are two ways to interpret this.

First, we can view the "grammatization" of the "good and" intensifier as "slow" -- taking thus far almost 400 years and not yet complete. This view has little to recommend it. Unless further facts come to light, it would be difficult to explain away why the form has remained ungrammatical (even though acceptable) for nearly 20 generations of language-learning children. Perhaps, there has been grammatical restructuring in each of these generations but it has been incremental and effectively

invisible although real. (I think we would not want to claim that the "good and" construction has remained ungrammatical but acceptable throughout these generations, but that very soon it will become incorporated into the grammar. This alternative seems to be too much like claiming that an epistemological system has a memory of those beings who have constructed it.)

Indeed, the view that seems most reasonable is that the "good and" construction is the converse of the case of recursive embedding in grammar. The existence of recursive self-embedding in the grammars of human languages (even though people cannot make use of these structures) is evidence that recursive self-embedding is a defining property of human languages: it exits in the domain of grammaticality in spite of acceptability. Good and is in a sense the converse case. Good and remains ungrammatical in spite of its full acceptability. Thus, despite the fact that in the normal sequence of things, acceptable but ungrammatical forms are incorporated into the developing grammars of children, certain forms apparently cannot be. Such forms are important because they demonstrate what a grammar cannot be. Something in the structure of language has prevented the grammar of English to equilibrate to the acceptable but ungrammatical "good and" construction.

We must now turn to the task of mapping out just what it might be about the "good and" construction that cannot be assimilated into the grammatical structure of language. Here again, we run into the difficulty inherent to the study of a single case: we have no independent basis for determining which of the properties of the "good and" construction are effective in blocking its grammatization. But consider this possibility. One way the "good and" construction could have been grammatized would be for it to have become a single lexical item. Indeed, it seems that this is precisely what speakers of English attempt to do in using the construction when they reduce good and to good'n. For the reasons presented in section 2.1, we must conclude that the attempt to grammatically lexicalize good and has failed. The question then is why this should be so. I will claim that good and violates a general condition on what can become a grammatical word and that for this reason it remains an ungrammatical (although acceptable) "word".

Recent approaches to the synchronic study of the lexicon have attempted to analyze the underlying "syntactic" structure of surface lexical items (e.g., Morgan, 1968; McCawley, 1968). Of course, not all linguists subscribe to this "generative semantics" approach (e.g., Fodor, 1970; Katz, 1972; Halle, 1973). Nevertheless, within the approach certain generalizations about lexical structure come to light. For example, Morgan (1968) argued that lexical items can only replace complete constituents in underlying pre-lexical structure. According to Morgan, there can be no word sneep that combines the elements underlying saw and soldier, as in (43a), to render the sentence (43b).

(43a) John saw Mary laying a wreath at the grave of the unknown soldier.
(43b) * John sneeped Mary laying a wreath at the grave of the unknown.

Morgan's analysis is synchronic, but perhaps it can be extended to describe diachronic restrictions on what can be a possible word. With this in mind, we return to the "good and" construction. Recall that the grammatical source of the "good and" analogy is a conjoined structure: ((Adjective) and (Adjective)). Thus, the right-most Adjective plus the conjunction and do not define a constituent. Because of this, the two elements cannot be lexicalized.[7]

In view of this proposal, consider some familiar word formations in English, illustrated in (44).

(44a) like God ==> goodly
(44b) by our Lady ==> bloody
(44c) God be with you ==> goodbye

In (44a) a comparison phrase becomes a single word, in (44b) it is a prepositional phrase that is lexicalized, and in (44c) it is an untensed sentence. In each case, the material which later becomes a single lexical item corresponds to a constituent. The "good and" construction violates this condition, and has never become a grammatical word.[8]

5.0 Conclusion

In their study of speech errors, Bever, Carroll and Hurtig (1976) concluded that ungrammatical but acceptable forms play a fundamental role in energizing the dialectics of language acquisition and evolution. This study of the English "good and" intensifier suggests that certain synchonically ungrammatical but acceptable forms cannot be incorporated into the structure of grammar. While they may create "pressure" in the evolutionary dialectic of grammaticality and acceptability, they do not participate.

Just as chronically grammatical but unacceptable forms, like center embeddings, can reveal the essential properties of grammar, so can chronically acceptable but ungrammatical forms. That the former are continued in grammar, despite their unacceptability, may reflect the importance of properties like recursive center embedding to the structure of grammar. That the latter remain ungrammatical despite their acceptability, may indicate that grammatization of them would violate a basic property of grammar (e.g., that word formation can only operate on constituents).

The present paper sketches a program for diachronic studies of these misfitting forms. Such studies could potentially provide a new sort of evidence bearing on the most basic universal properties of grammar. However, in order to really assess these proposals, further cross-validating analyses must be performed.

Footnotes

[1] The point is that it can only have such a corresponding form if good is taken as an intensifying adjective and not, as is more likely in sentence (1), as an intensifying adverbial, see below in text. There are a few exceptions to this: good hard work, good long climb, good long while.

[2] This appeal to semantics is only a heuristic adopted here to help motivate the distinction drawn between intensifier "good" and attributive "good". The real issue of the semantics of the "good and" intensifier will not be addressed.

[3] Clearly, our phonological (grammatical) knowledge can be applied to sequences which are syntactically-semantically ungrammatical (e.g., nonsense words). The further assumption here is that phonological processes conditioned by typically syntactic properties (i.e., being an adverbial, in (18) and (19)), can also apply when these properties are assigned by extra-grammatical systems, like neologism.

[4] Some qualification may be necessary here. There is some question whether in every case the relation between the attributive "good" and the intensifier "good" is truly morphological (e.g., in French bon versus bien). The relation may be still more abstract, i.e., semantic -- see section 3.4.

[5] Note though that the prenominal intensifier sense of good is still acceptable

in some dialects in the United Kingdom (according to the O.E.D.). There are also some frozen idioms, as noted in footnote 1. Indeed, in these cases the prenominal intensifier "good" seems more acceptable than good and.

the good hard climb ... ?the climb was good and hard
the good long wait ... ?the wait was good and long

Some dialects also allow the form "Adjective good", as in,

He is drunk good.

[6] Another possibility would have been a "well and" intensifier. There might have been such a form as suggested by (i) through (iii).

(i) The husbonde knew the estris wel and fyn (c. 1385)
(ii) But you are well and warm and so hold you (c. 1571)
(iii) that's all well and good (modern)

These "well and" forms were limited. Well and fine appeared c. 1350 through c. 1500 but only with the adjective fine. Similarly, well and warm, c. 1500 through c. 1700, and the modern well and good seem to be unproductive and idiomatic.

[7] If the rules of pre-lexical syntax allowed the Adjective in the structure "good and Adjective" to be moved out of the coordination, the "good and" construction would be rendered a constituent, and therefore could become lexicalized. Morgan (1968) argues that Ross's (1967) universal constraints on rules of syntax apply to pre-lexical rules. On this basis, he argues that saw and soldier in (43) could never become a constituent, and therefore never be lexicalized as sneeped. In the case of good and the relevant constraint is the Coordinate Structure Constraint. This constraint prohibits moving a conjunct out of a coordinate structure. Hence, no rule can render good and a constituent.

[8] Indeed, consider this line of analysis as applied to the historical "pretty and" intensifier. Pretty and, like good and, could not become lexicalized. What apparently happened was that the single item pretty was reanalyzed in grammar such that it could act as an adverbial intensifier (when preceding an adjective) or as an adjective (when preceding a noun -- see discussion above). This grammatical reanalysis did not involve the incorporation of pretty and and into a single lexical form, but ultimately did supplant the analogical "pretty and" form.

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