Language Variation and Change, **13** (2001), 193–208. Printed in the U.S.A.

Why *worser* is better: The double comparative in 16th- to 17th-century English

JULIA SCHLÜTER
University of Paderborn

ABSTRACT

In Early Modern English, double comparatives were often encountered in both spoken and written language. The present article investigates the redundantly marked comparative *worser* in relation to its irregular, but etymologically justified, counterpart *worse*. My aim is to examine the diachronic development of the form as well as its distribution in the written language of the 16th and 17th centuries. Two detailed corpus studies are used to reveal the set of parameters underlying the variation between *worse* and *worser*, which include system congruity, semantics, and standardization effects. However, the focus here is on the tendency to maintain an alternation of stressed and unstressed syllables, known as the Principle of Rhythmic Alternation. This prosodic principle (which has been argued to be particularly influential in English) turns out to be responsible for most of the results obtained in the analysis of the corpus data.

In this article I investigate the variation between the irregular comparative *worse* and its regularized redundantly marked counterpart *worser* as documented in two historical and diachronic corpora, concentrating on the Early Modern English period. On the one hand, this phenomenon is isolated insofar as the marking of the comparative by means of the suffix *-er* is usually not variable. On the other hand, the results of this study show that, in addition to a number of functional factors, a phonological factor—the Principle of Rhythmic Alternation—plays a decisive role in determining the distribution of *worse* and *worser*. In this respect, the phenomenon can be seen against a background of similar cases of grammatical variability in which rhythmic alternation comes into play (see, e.g., Rohdenburg & Schlüter, 2000; Schlüter, to appear-a, to appear-b).

The Principle of Rhythmic Alternation was advocated as early as 1910 in the works of Fijn van Draat (1910, 1912a, 1912b). According to Kager (1989:2), "stressed and stressless syllables tend to alternate at rhythmically ideal disyllabic distances" (see also Selkirk, 1984:37). This principle, which ensures that stress clashes (i.e., sequences of two stressed syllables) and lapses (i.e., sequences of more than two unstressed syllables) are avoided wherever more rhythmic alternatives are available, is thus conducive to a regular alternation of stressed and

The research on which this article is based was supported by grant No. RO 2271/1-1 of the Deutsche Forschungsgemeinschaft. I am deeply indebted to Günter Rohdenburg for his invaluable suggestions and pertinent comments on my work in progress.

unstressed syllables. According to Kager, this principle is a "semi-universal," playing a part in all languages that make use of syllabic stress differences.[1] The Principle of Rhythmic Alternation can be considered to have a functional motivation in terms of the constraints imposed by the "articulatory and auditory bottleneck" (Berg, 1998:23; see also Schlüter, to appear-b): that is, the maxim that only that which can be phonetically encoded and decoded can play a linguistic role.

EMPIRICAL STUDIES

Worser *in the* OED *corpus of quotations*

For obvious reasons, the comparative suffix *-er* cannot usually be left off without a concomitant loss of the comparative meaning. There are only two (non-analytic) comparatives in Modern English (discounting the form *more*) that have no *-er* suffix: the adjectival and adverbial comparatives *worse* and *less*. However, in older texts we also find the redundantly marked, suffixed forms *worser* and *lesser*, the latter of which still lives on in certain special uses when opposed to *greater*. About the former, the *OED* gives the following information: "The word was common in the 16th–17th c. as a variant of 'worse', in all its applications. In modern use, it is partly a literary survival (esp. in phrases like *the worser part*, *sort*, *half*), partly dial. and vulgar" (*OED 2 on CD-ROM*, 1994, s.v. *worser*).

To verify the claims made by the *OED*, I carried out a pilot study on a diachronic corpus consisting of the quotation base from the *OED*.[2] The principal aim of this study was to determine the time span during which the redundant comparative flourished. The period between the first (1495) to last (1887) occurrence was subdivided into approximately equal intervals of roughly a century each. All instances of *worser* were classified according to the syntactic function of the form. The first major category, attributive uses, was subdivided into three types of attributive structures: (1) single attributive, where *worser* immediately precedes the noun it modifies; (2) complex attributive (with only one instance), where some other attribute intervenes between *worser* and the noun; and (3) use with an ellipted antecedent, where the noun that is modified remains implicit. The three categories are illustrated in (1), (2), and (3).

(1) Our own great infirmities and failings … deserve a **wórser pláce**, a more incommodious Habitation. (W. Derham, *Physico-Theology*, 1713)[3]
(2) The **wórser éarthy** Part of the Hop is greatly the Cause of that rough, harsh, unpleasant Taste. (*London and Country Brewer*, 1742)
(3) If the change chance to be from a bad Prince to a **wórser**. (J. Hayward, translation of Biondi's *Donzella desterrada*, 1635)

The second major category (comprising the non-attributive occurrences) subsumes all other uses (predicative, substantival, and adverbial), as illustrated in (4), (5), and (6).

(4) What **wórser** for barlie than wetnes and cold? (Th. Tusser, *Five Hundreth Pointes of Good Husbandrie*, 1573–1580)
(5) It is reasonable the **wórser** should be in subserviency to the better. (H. More, *Conjectura Cabbalistica*, 1653)
(6) I cannot hate thee **wórser** then I do, If thou againe say yes. (W. Shakespeare, *Anthony and Cleopatra*, 1606)

The variant *worser* is rhythmically distinct from the monosyllabic form in that the redundant suffix provides a supplementary unstressed syllable, which under certain circumstances acts as an accentual buffer between two strongly stressed syllables. Since this study is based on the expectation that the additional suffix might have been exploited for rhythmical purposes, I distinguished for each category those cases in which a stress clash would have resulted if the monosyllabic form *worse* had been used (i.e., cases in which the disyllabic form *worser* precedes a stressed syllable). These numbers are given in the second column for each of the four time periods in Table 1. Compared to the frequency of the suffixless comparative *worse*, the doubly marked form is a minority option used by a small number of the authors cited in the *OED*. Therefore, a cross-check involving all instances of *worse* in the *OED* quotations would be statistically inadequate. However, in order to ensure that the data are not artifact of the coverage of the quotation corpus, which suddenly drops in the 18th century but recovers density a century later, a frequency index was calculated in row 4 of Table 1. It gives the quotient of the occurrences of *worser* in a particular time span and the total number of quotations included in the *OED* for that time span, multiplied by 1,000. Therefore, this index provides a better estimate of the actual frequency of the double comparative than absolute numbers of occurrence.

The total numbers and the frequency index in Table 1 support the statement from the *OED* and, specifically, the claim that the double comparative was in use mostly in the 16th and 17th centuries. However, the second occurrence following that of 1495 is attested as late as 1553, more than half a century later. The apparent revival of the form in the 19th century is accounted for later on and need not concern us for the time being. For periods I and II, the *OED*'s claim, according to which *worser* may replace *worse* "in all its applications," is also confirmed.

The corpus contains examples that provide a clue to one of the factors that may have been responsible for the use of *worser* where *worse* (deriving from Old English *wyrsa* or *wiersa*) would have been the expected form. *Worser* occurs frequently in coordination or in opposition with another synthetic comparative ending in *-er*. Thus, it may be assumed that a context containing a regular comparative would favor the appearance of the regularized form *worser*, as in (7) and (8).

(7) Where he does well, none does **better**, but where ill, none **worser**. (D. Rogers, *Naaman the Syrian*, 1642)
(8) The Hurds, . . . or Tow, of Flax and Hemp, will serve to make a **weaker**, or a **worser** sort of Linnen. (J. Collins, *Plea Irish Cattell, etc.*, 1680)

The *OED* data yield 11 cases where *worser* co-occurs with a suffixed comparative. These microscopic contexts only exemplify the more general regularization

TABLE 1. *Occurrences of* worser *in the* OED *quotations*

	1495–1599		1600–1699		1700–1799		1800–1887	
	Total	Preceding a Stressed Syllable	Total	Preceding a Stressed Syllable	Total	Preceding a Stressed Syllable	Total	Preceding a Stressed Syllable
1. Attributive uses	11	11/11 100%	23	19/23 83%	4	4/4 100%	13	11/13 85%
Single attributive	11	11/11 100%	19	19/19 100%	3	3/3 100%	11	11/11 100%
Complex attributive					1	1/1 100%		
Ellipted antecedent			4	0/4 0%			2	0/2 0%
2. Other uses	14	1/14 7%	17	3/17 18%	2	1/2 50%	3	1/3 33%
Predicative	7	0/7 0%	5	0/5 0%	1	1/1 100%	2	1/2 50%
Substantival	3	0/3 0%	3	1/3 33%				
Adverbial	4	1/4 25%	9	2/9 22%	1	0/1 0%	1	0/1 0%
3. Total	25	12/25 48%	40	22/40 55%	6	5/6 83%	16	12/16 75%
4. Frequency index	0.0987		0.1036		0.0218		0.0245	

pressures bearing on the exceptional comparative *worse*. The "system-defining structural property" of comparatives in English is the regular presence of the suffix *-er* (to adopt the term coined by Wurzel, 1987:64–65). The effect of the "principle of system congruity" (Wurzel, 1987:92; see also Wheeler, 1993) is to promote a transferral of members from unstable classes (e.g., the *-er*-less comparatives *worse* and *less*) to stable classes, which constitute the dominant paradigm in terms of frequency and conform to the system-defining structural property. The *OED* data testify to an incipient development tending towards an increase of system congruity produced by the introduction of a regularized form.

It is worth noting that the addition of the comparative marker *-er* does not typically signify an enhancement of the idea of comparison. This could only be safely assumed if *worser* occurred in opposition to *worse*, which is the case in only one corpus example, quoted in (9). As the quotation marks indicate, this is intended to be a facetious use, dating from a time when *worser* had already disappeared from the standard register.

(9) Vegner's paper was **bad**, his ink **worse**, his pen '**worser**' still, spitting strangely. (*Archaeologica*, 1871)

If *worser* adds to the comparative character of *worse* in general, this reinforcement can therefore be argued to take place on the level of system congruity rather than on the semantic level. Hence, semantic factors seem to be negligible as determinants of the distribution of *worse* and *worser*.

A striking fact disclosed by the data in Table 1 is that, between single attributive uses and other uses, there is a dramatic difference in the relative number of stress clashes that would have resulted from the use of the standard variant *worse*. Single attributive *worser* precedes a stressed syllable in 100% of all cases, whereas in other uses the proportion of avoided stress clashes is considerably lower (wherever the corpus yields sufficiently many occurrences). However, this fact is not surprising if we take into account that a stress clash is most likely to arise when a single monosyllabic adjective like *worse* immediately precedes an initially stressed noun.[4] The buffer effect afforded by the additional comparative suffix is particularly advantageous in single attributive uses, as shown in example (1), where it creates structures conforming to the Principle of Rhythmic Alternation. The other (i.e., non-single attributive) syntactic functions of *worser* I discuss later in connection with the second corpus study. Note, however, that the percentages in Table 1 indicate that the potential for stress clashes is much higher in single attributive uses than in other uses.

In this context, a diachronic survey of the *OED* data turns out to be helpful. The graphs in Figure 1 represent the frequency of *worser* and the proportion of actually avoided clashes across the four periods studied. The graph on the left refers exclusively to the critical context of single attributive instances, and the graph on the right comprises all other instances.

A look at the evolution taken by the form *worser* shows that, having reached its peak in the 17th century, it was clearly on its way out in the 18th century. Although double comparison was a widespread phenomenon in Early Modern

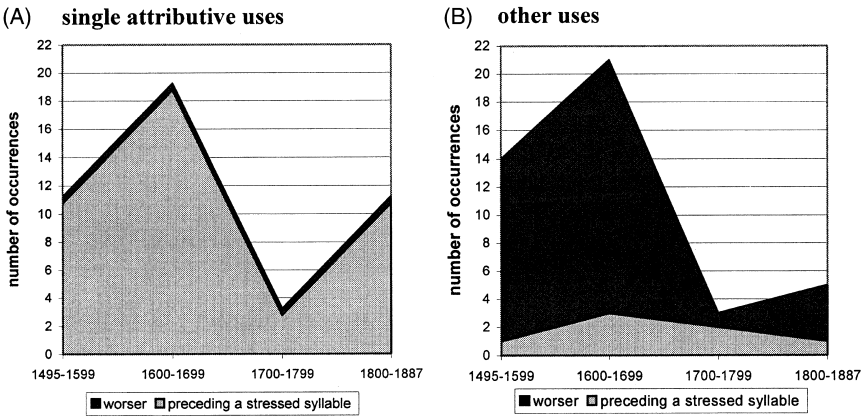

FIGURE 1. The relation between stress clash avoidance and single attributive uses vs. other uses of *worser* in the *OED* quotations (data from Table 1).

English, according to Franz (1939:210), it was decried by the prescriptive grammarians of the 18th century. In line with Stein's (1997:38–39) findings, variation between two semantically and grammatically equivalent forms tended to be eliminated, redundantly marked forms being generally dispreferred in the process of standardization. This stigmatization of the variant *worser* eventually led to its extinction in standard English.

With only two exceptions,[5] all occurrences of *worser* after 1783 in some way or another suggest that they are no longer unmarked standard English usage. They survive in phraseological collocations, as in (10), or are indicative of archaic or nonstandard language, as in (11) and (12), respectively.

(10) a. I inclose to Mrs. Blanchard an Invitation from my **worser half**. (C. Dickens, *Letters*, 28 December 1838)
b. The **worser part** of the press was timid, venal and obsequious. (S. Austin, *Germany from 1760 to 1814*, 1854)

(11) Thy pride will strand thee on a **worser woe**. (J. S. Blackie, translation of *The Lyrical Dramas of Æschylus*, 1850)

(12) You might ha' made a **worser guess** than that, old feller. (C. Dickens, *Pickwick Papers*, 1837)

These special uses (as well as distortions due to the weak representation of the 18th century in the corpus; see the frequency index in Table 1) account for the apparent revival of *worser* in the 19th century. This effect is probably due to editorial influences in the *OED*.[6]

Furthermore, the graphs in Figure 1 show that the context of single attributive uses has always attracted almost as many instances of *worser* as all the other contexts taken together. In the 18th century, *worser* is exactly as frequent in single attributive uses as in all other uses, and in the 19th century, single attrib-

utive uses are clearly in the majority. The reason for this relative stability of single attributive *worser* is obvious. In graph A, the whole surface area is covered by the superimposed area indicating the proportion of uses occurring in potential loci for stress clashes (i.e., before a stressed syllable); in graph B, the largest part of the surface area representing all other uses is not covered by the considerably smaller area giving the proportion of items occurring before stressed syllables. Thus, there is a high correlation between single attributes and potential stress clashes. I return to the importance of this correlation for the preservation of attributive *worser* later on.

In conclusion, this preliminary study of the occurrences of *worser* in the quotation corpus of the *OED* has largely verified the statement from the lexicographic entry cited at the beginning. The form was indeed most common in the 16th and 17th centuries and was available as a variant of *worse* in all its functions. While no instances have been detected for the 20th century, the latest occurrences in the 19th century are preserved in unproductive or nonstandard collocations.

A number of factors have been considered as possible determinants underlying the rise and fall of the doubly marked comparative. While system congruity and analogy may have been the most important factors actuating the introduction of the regularized form *worser*, standardization tendencies seem to have been responsible for the stigmatization and eventual disappearance of the form. Since there is no way of measuring the influence of these factors quantitatively, their relevance can only be induced from the evidence provided by the appearance, spread, and decline of the regularized and redundantly marked comparative. Semantic differentiations were attested in only one marginal example sentence and presumably played a negligible role in the evolution of the reinforced comparative. On the other hand, major effects were obtained by correlating the different syntactic uses of *worser* with the concomitant rhythmic environments. In particular, single attributive contexts were shown to be particularly liable to produce stress classes if they involved monosyllabic attributes. Thus, the Principle of Rhythmic Alternation seems to play an important role in triggering the use of the redundantly suffixed comparative, a claim that is explored in more detail in the following analysis.

Worse *and* worser *in the* Early English Prose Fiction *corpus*

The *Early English Prose Fiction* corpus—a collection of 211 prose texts from the 16th and 17th centuries (9.6 million words)—covers precisely the two centuries that we would expect to be the most interesting with regard to the distribution of *worse* and *worser*. This corpus allows for the restriction of a search to the works of one or several specific author(s). This possibility proves to be convenient, since virtually all the authors included in this database use the form *worse* but only 27 of them[7] also use its variant *worser*. These authors' works have been searched for both variants. Table 2 uses the same classification as in Table 1, complemented by one additional subclass of non-attributive uses: postnominal (which did not occur in the *OED* corpus). Again, the number of cases actually

TABLE 2. *The distribution of* worse *and* worser *in the works of 27 authors in the 16th- and 17th-century parts of the* Early English Prose Fiction *corpus*

	16th century					17th century				
	worse		*worser*			*worse*		*worser*		
	Total	Preceding a Stressed Syllable	Total	Preceding a Stressed Syllable	Significance	Total	Preceding a Stressed Syllable	Total	Preceding a Stressed Syllable	Significance
1. Attributive uses	23/33	12/23	10/33	7/10		49/66	26/49	17/66	15/17	
	70%	52%	30%	70%		74%	53%	26%	88%	
Single attributive	19/27	12/19	8/27	7/8	n.a.	39/55	26/39	16/55	15/16	$p < 0.01$
	70%	63%	30%	88%		71%	67%	29%	94%	
Complex attributive	0/1	0/0	1/1	0/1	n.a.	2/2	0/2	0/2	0/0	n.a.
	0%		100%	0%		100%	0%	0%		
Ellipted antecedent	4/5	0/4	1/5	0/1	n.a.	8/9	0/8	1/9	0/1	n.a.
	80%	0%	20%	0%		89%	0%	11%	0%	
2. Other uses	79/92	8/79	13/92	0/13		247/253	8/247	6/253	1/6	
	86%	10%	14%	0%		98%	3%	2%	17%	
Postnominal	2/2	0/2	0/2	0/0	n.a.	9/9	0/9	0/9	0/0	n.a.
	100%	0%	0%			100%	0%	0%		
Predicative	41/47	0/41	6/47	0/6	n.a.	163/166	0/163	3/166	0/3	n.a.
	87%	0%	13%	0%		98%	0%	2%	0%	
Substantival	8/11	0/8	3/11	0/3	n.a.	23/23	0/23	0/23	0/0	n.a.
	73%	0%	27%	0%		100%	0%	0%		
Adverbial	28/32	8/28	4/32	0/4	n.a.	52/55	8/52	3/55	1/3	n.a.
	88%	29%	13%	0%		95%	15%	5%	33%	
3. Total	102/125	20/102	23/125	7/23		296/319	34/296	23/319	16/319	
	82%	20%	18%	30%		93%	11%	7%	70%	

preventing the clash of strongly stressed syllables (i.e., those with a following stressed syllable) as opposed to unproblematic cases (i.e., those with a following unstressed syllable) are given.

This corpus analysis was designed to test the hypothesis that, in single attributive contexts, the proportion of *worser* would be higher than the proportion of *worse*. In addition to these critical contexts, all remaining contexts were also tested for deviations from the total distribution across all other contexts (excluding the tested context itself). A *Z* test was applied to determine the difference between the proportions under consideration. The only significant result obtained was for single attributive uses in texts from the 17th century ($Z = 6.896$; $p < .01$). In the remaining contexts, the preconditions for the *Z* test with regard to sample size were not satisfied, which rendered the test non-applicable. Although the 16th-century data for single attributives narrowly failed the test for the same reason, they clearly pointed in the same direction as those for the later period ($Z = 1.701$).

As in the *OED* data, instances of *worser* only begin to crop up in the second half of the 16th century. As a result, the overall number of authors included in the study is higher for the 17th century. However, a comparison of the total number of *worse* and *worser*, made possible by restricting the search to only those authors who use *worser*, shows that the proportion of *worser* in fact sinks from 18% in the 16th century to 7% in the 17th century.

A closer look at the totals reveals that, as early as the 16th century, *worser* is strikingly overrepresented among single attributive uses, where it accounts for 30% of the occurrences as opposed to 18% of the total. The most intriguing fact is that, while in the 16th century *worser* is present in practically all syntactic functions, in the 17th century it lives on primarily in single attributive uses. In contrast, all other uses (including complex attributive constructions and those with an ellipted antecedent) drop by more than 50% (from 15 to 7 instances). Thus, the percentage of single attributive uses of *worser* (29%) exceeds the average across the other contexts, which hovers around a mere 3%, to a highly significant degree (according to the *Z* test).

The explanation for the strong affinity between *worser* and attributive occurrences is obvious and corresponds to the one invoked in the preliminary study of the *OED* data. Given the prevailing stress pattern of nouns, it is advantageous for preceding attributes to end in an unstressed syllable, as this tends to avoid stress clashes. A detailed analysis of the stress patterns of attributive constructions involving *worse* and *worser* in the corpus shows that, of the 19 combinations of single *worse* plus noun in the 16th century, 7 (37%) contain nouns that are not initially stressed. In the 17th century, this tendency is equally strong: 13 out of 39 tokens (33%) of attributive *worse* are followed by such untypical nouns. This holds true for only 1 out of 8 (13%) and 1 out of 16 combinations (6%) involving *worser* plus noun in the 16th and in the 17th centuries, respectively.[8] Thus, cases of attributive *worse* are associated with a disproportionately high number of nouns that are unproblematic in terms of rhythm.

Furthermore, some authors of the 17th century seem to be particularly sensitive to rhythmic clashes. For instance, Brathwait has 2 attributive uses of *worse*,

both of which occur before non-initially stressed nouns, and 1 use of *worser*, where a stress clash would otherwise result. Similarly, Head has 4 attributive uses of *worser*, all of which improve the rhythm, and 7 single attributive uses of *worse*, in which stress clashes persist in only 2. Finally, Gildon has 5 occurrences of *worse* in the critical contexts, of which 4 are unproblematic, and 1 occurrence of *worser*, in which a stress clash is avoided. The examples in (13) illustrate uses of *worse* where no stress clash arises:

(13) a. He by this suit exposed to a **wórse Condítion**. (R. Brathwait, *Pantalia*, 1640–1659)
b. … and now did this Gentlewomans Husband fall sick of a **wórse distémper**, the Plague of Jealousie … (R. Head, *The English Rogue*, 1665–1673)
c. … and 'tis to be wish'd with no **wórse desígn** than these gentlemen did it. (C. Gildon, *The Post-boy rob'd of his Mail*, 1692)

If we subtract the eurhythmic uses of *worse* (7 and 13 in the 16th and 17th centuries, respectively) from the number of single attributive uses of *worse* and add them to the total number of uses of *worser* (8 and 16), we end up with 12 (44%) and 26 (47%) unrhythmic uses for the 16th and 17th centuries, as opposed to 15 (56%) and 29 (53%) rhythmic uses. The proportions are remarkable if we bear in mind that the use of *worser* never exceeded 18% of the total of *worse* and *worser* taken together and was never able to establish itself as standard. Even more astonishing is the fact that, although the authors of the 16th and 17th centuries resort to the use of *worser* in no more than 18% and 7% of the cases in question, respectively, they manage to adapt their choice of *worse* or *worser* in single attributive structures to the requirements of the Principle of Rhythmic Alternation in the majority of instances.

Figure 2 illustrates these relationships. Diagram A depicts the proportions of *worse* (the two lower segments of the columns) and *worser* (the two upper segments) as percentages of the total number of single attributive uses. Diagram B does the same for all other uses taken together. The black and light gray segments represent the percentage of cases for both variants preceding a stressed syllable. It is obvious that this portion is considerably larger in single attributive uses than in other uses, a fact that explains the greater incidence of *worser* in these contexts. The black residues at the bottom of the columns stand for those cases in which a stress clash remains unresolved, while the remaining fragments conform to the Principle of Rhythmic Alternation.[9] Even in the rhythmically critical context of single attributes, the percentage of violations of the principle falls short of 50%.

I now turn to the non-single attributive contexts in which the two variants occur. Complex attributive structures, which involve contexts separating attributive *worse(r)* from its antecedent, lower the probability of a stress clash, as illustrated in (14).

(14) a. … whom neyther the proud conceit of their owne wisdome, nor a **wórse then brútish négligence** hath not blinded. (K. Long, *Barclay His Argenis*, 1625)
b. I counte these my Prymeroses to be of the **wórser and méaner sórte**, by reason of their firste plantyng. (J. Grange, *The Golden Aphroditis*, 1577)

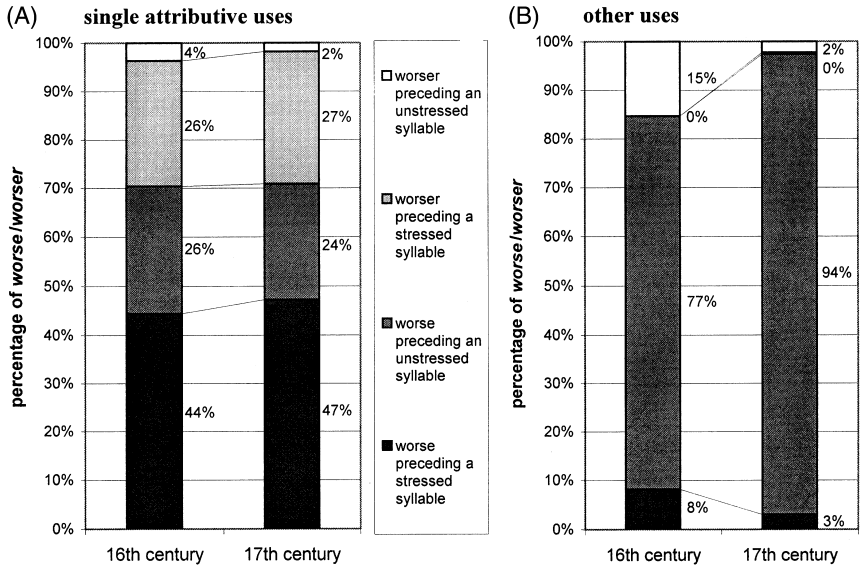

FIGURE 2. Relative frequency of *worse* and *worser* in the works of 27 selected authors in the 16th- and 17th-century parts of the *Early English Prose Fiction* corpus (data from Table 2).

In the remaining syntactic contexts, stress clashes are generally unlikely to arise, since the comparative is often followed by either a pause or an unstressed function word. Thus, the monosyllable variant *worse* is unobjectionable in terms of rhythmic alternation and is used in the majority of cases. (15) illustrates a use with an ellipted antecedent, (16) a postnominal use, (17) two predicative uses, and (18) two substantival uses.

(15) … for as some hunte after better fortune, they happen to **worse**. (T. Blage, *A schole of wise Conceytes*, 1569)

(16) … neyther doe there want iangling Pettifoggers, and a kinde of people **worse** then these. (K. Long, *Barclay His Argenis*, 1625)

(17) a. … and seeing all things grow every day **worse** and **worse** by the desperate evil of the Times … (Anon., *The Life and Death of Mrs. Mary Frith*, 1662)
b. … to keep his wounds from growing **worser** than **better**. (A. Weamys, *A Continuation of Sir Philip Sydney's Arcadia*, 1651)

(18) a. … if **worse** should happen, hee might at least dye magnificently. (K. Long, *Barclay His Argenis*, 1625)
b. … making election of the **worser** and leauinge the **better** … (B. Rich, *Don Simonides*, 1581–1592)

In the (b) examples of (14), (17), and (18), the redundantly suffixed comparative is presumably employed by analogy to the regularly suffixed comparatives. In the 16th-century part of the corpus, *worser* is used in 5 out of 19 (26%) instances of

coordinated or contrasted comparatives, and in the 17th century part, it is used in 2 out of 15 (13%) instances. Both percentages are slightly higher than the period averages.

Among the adverbial uses, the form *worse* makes up the bulk of the examples, and stress clashes are relatively rare. Compare, however, the examples in (19), where the choice of suffixed or suffixless form depends on the stress pattern of the following verb.

(19) a. . . . into a darke Dungeon, where he was hardly Dyetted, and **wórse intréated**. (E. Forde, *Montelyon*, 1598–1633)
b. . . . and good enough to passe time, that might be **wórser spént**. (Anon., *Robin Good-fellovv*, 1628)

Given these facts, it is not surprising that 12 of the 27 authors never employ *worse* in single attributive uses, while 15 never use *worser* in other than precisely these positions. For 5 authors, there is a completely complementary distribution of the two variants.

In sum, it can be argued that the synchronic distribution of the variants *worse* and *worser* was at all times primarily governed by the strong aversion to stress clashes. The most critical environment consequently consisted of prenominal uses, which strongly favored the redundantly suffixed comparative.

To appreciate the conclusions that can be drawn on the diachronic level, reconsider Figure 2, in which both diagrams differentiate between the distributions for the 16th and for the 17th centuries. Keeping in mind that the overall percentage of the redundantly marked comparative decreases during the time span under consideration, it is striking that the share of *worser* in single attributive uses is maintained at a conspicuously and constantly high level (at around 30%). In contrast, *worser* in other uses is virtually eliminated (from 15% down to 2%). This can be taken as evidence that, even though the double comparative was dying out, the rhythmically inspired desire to separate stressed syllables was still operative. The marked persistence of the form in precisely these critical contexts can be attributed to the workings of the Principle of Rhythmic Alternation.

CONCLUSION

In this article, I have studied the alternation between the irregular comparative *worse* and its regularized counterpart *worser* in two historical and diachronic corpora. On the basis of this analysis, the story of *worser* can now be told. Presumably, *worser* was initially introduced by analogy to other regular synthetic comparatives and promoted by the influence of a principle encouraging system congruity (Wurzel, 1987). The striving for formal parallelism had a particularly strong impact in coordinations or oppositions of comparatives. Thus, in the second half of the 16th century, *worser* initially spread indiscriminately across all contexts in which *worse* had previously been used. However, even in the early phase, a significant association with attributive uses is evident.

Single attributive uses represented those contexts that were particularly likely to produce stress clashes, since the overwhelming majority of English nouns are initially stressed. In other syntactic functions, the comparative was usually followed by an unstressed function word or a pause. Hence, the tendency to separate stressed syllables (known as the Principle of Rhythmic Alternation) accounts for the remarkable affinity between single attributive uses and the redundantly suffixed comparative *worser*. In the works of a few individual authors, this led to a proper complementary distribution of the alternate forms, but the pattern was not as clearly grammaticalized as other rhythmically inspired variation phenomena (e.g., the contrast between *drunken* in attributive uses and *drunk* in other uses; see Schlüter, to appear-a). This is reflected in the fact that the quota of *worser* was reduced before non-initially stressed nouns. Thus, the choice of *worse* or *worser* was sensitive to the respective rhythmic context, and the Principle of Rhythmic Alternation was still productively applied as a major determinant of their distribution.

The fact that *worser* has never even come close to supplanting the older form *worse* and was eliminated in standard written language soon after its appearance is undoubtedly due to an early stigmatization of the double comparative as nonstandard or vulgar. In fact, a study of an 18th-century corpus (*Eighteenth-Century Fiction*) of about the same size and the same text types as the *Early English Prose Fiction* corpus yields only three occurrences of the redundantly marked comparative. As the form was on its way out towards the end of the 17th century, phonological factors became increasingly influential in that they afforded a longer lease of life to attributive uses, which were particularly felicitous in terms of rhythm. *Worser* probably owed its preservation in precisely these contexts to the interplay of standardization pressures (eradicating other uses) and phonological preferences (favoring its retention in single attributive uses).

Since modern standard English has been thoroughly purged of the form *worser*, the language now has to put up with stress clashes between prenominal uses of *worse* and initially stressed nouns. In this respect, the apparent demise of the Principle of Rhythmic Alternation parallels results from similar studies of language variation and change, according to which a constraint on the variable presence of a grammatical morpheme apparently disappears (or rather functions vacuously) because the morphemic material it operates on becomes extinct.[10]

Unlike the cases of syntactic change observed in Kroch (1989), functional factors seem to have determined the evolution of the morphological variation pattern investigated in this article at all stages. First, analogy and system congruity give rise to the regularized comparative *worser*. Then, rhythmic alternation (a constraint conditioned by the articulatory and auditory bottleneck) has the greatest explanatory force for both its synchronic distribution in the 16th and 17th centuries and its diachronic preservation across these time periods. Finally, stigmatization and standardization lead to its eventual disappearance. By contrast, at no point in the time course of this evolution is there any evidence that would warrant the conclusion that the underlying grammatical representation was changing. *Worser* rises and declines, but always remains a minority option and never

achieves a breakthrough even in attributive uses. Under these circumstances, which may constitute a crucially different case, the phenomenon fails to exhibit Kroch's (1989) Constant Rate Effect, but rather shows tendencies running counter to the expectation that the rate of change is constant across all contexts. In the late phase of the doubly marked comparative, single attributive and other contexts drift apart to a considerable degree. Specifically, while the proportion of *worser* drops in all rhythmically unproblematic contexts, it manages to maintain itself at a stable level in the favorable prenominal uses.

While the Principle of Rhythmic Alternation cannot be assumed to be responsible for the emergence of the form *worser* and to resolve the actuation problem of language change addressed by Kroch (1989:237–238), it opens up an avenue to a diametrically opposed issue, which we may refer to as the recession problem. When a grammatical variant is on the way out, functional factors such as the preference for rhythmic alternation may take over an important role in determining its preservation. They may lead to a substantial divergence between favorable and unfavorable contexts and even condition a long-standing functional dissociation between the variants. Similar findings presented in Rohdenburg and Schlüter (2000) and Schlüter (to appear-a) situate these conclusions in a larger context and show that the Constant Rate Hypothesis underestimates the effects of functional constraints in language change. As for the double comparative *worser*, the better variant has not exactly won, but could have done much worse if it had not been for the Principle of Rhythmic Alternation.

NOTES

1. There is, however, some indication that the Principle of Rhythmic Alternation can vary in its influence from language to language or even between different historical stages of one and the same language. With respect to English, Markus (1994:192–193) assumed that the importance of rhythmic alternation as a determinant of grammatical variation has been increasing since Early Modern English times. According to Markus, the prosodic flexibility of Middle English was lost when, in Early Modern English, syntactic options had been semantically functionalized and syllabic inflectional endings had disappeared. This required speakers (and writers) to resort to more sophisticated grammatical means in order to achieve an alternating rhythm.

2. In addition to the regular spelling, I included orthographic variants that were retrieved in the lexicographic entry for *worser* (*wurser*, *woorser*, *wusser*).

3. In this and following examples, boldface is used to highlight the elements under consideration. An acute accent is used where appropriate to indicate the location of the primary lexical stress.

4. Nouns in English typically carry initial stress and in this respect differ, for instance, from verbs, which manifest a tendency towards final stress (compare minimal pairs like *rébel* and (*to*) *rebél*). Kelly and Bock (1988) claimed this contrast to be contingent on the effect of the Principle of Rhythmic Alternation in prototypical syntactic contexts of nouns in contradistinction to verbs.

5. The two exceptions are cases in which the *-er* suffix (once again in attributive position) prevents the clash of two strongly stressed syllables.

(i) Lawcraft, if not a twin-fiend with Priestcraft, is … perhaps the **wórser dévil** of the two. (R. Southey, *Sir Thomas More*, 1829)
(ii) One might imagine it a **wórser Tróy**. (M. Collins, *Inn Str. Meetings*, 1871)

6. I assume that, for lexicographic purposes, lexical curios are naturally of great interest and may therefore be overrepresented in the database.

7. Despite one or two occurrences of *worser* in their works, Bunyan, Markham, and Middleton were excluded from this count. They used *worser* exclusively in the songs and poems that were occasion-

ally interspersed in their prose. Similarly, all occurrences of *worse* and *worser* appearing in versified passages in the other authors' works were discounted. Their inclusion would not jeopardize the interpretation of the data, but would in fact reinforce it: all 8 instances of *worser* that are eliminated appear attributively before initially stressed nouns. However, the metrical structure of verse formally sanctions the avoidance of stress clashes, so that the variation between *worse* and *worser* is artificially constrained. Metrical language certainly offers many parallels to prose, whose eurhythmic tendencies it conventionalizes, but this is clearly beyond the scope of the present discussion.

8. This combination does not produce truly unrhythmic patterns (stress lapses), but only a ternary rhythm.

(i) Cloria being accommodated after an artificial manner, though for a **wórser resémblance**. (Sir P. Herbert, *The Princess Cloria*, 1661)

9. Note that, as mentioned in note 8, ternary rhythms, such as those produced by the suffixed form *worser* followed by another unstressed syllable, are generally tolerated much better than sequences of stressed syllables. Stress lapses, which violate the Principle of Rhythmic Alternation just as stress clashes do, are defined as involving more than two consecutive unstressed syllables.

10. See the findings by Bailey, Maynor, and Cukor-Avila (1989:295), who showed that the NP/PRO constraint is losing its effect in the Black Vernacular English of the younger generation since the verbal morpheme *-s* is vanishing entirely in this variety.

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