Orthographic distinctiveness of homonyms*

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Ratings of orthographic distinctiveness were obtained for 139 homonym pairs. Mean ratings on a 9-point scale ranged from 7.75 to 2.44. Reliability of the ratings was high ($r = .91$). In addition, orthographic distinctiveness was found to be independent of disparity in perceived meanings of the separate homonym forms.

Homonyms, as words with identical pronunciations but different semantic contents, represent an important word population for testing various hypotheses that stress feature tagging as the basis of interword discriminations in recognition learning (e.g., Anisfeld & Knapp, 1968). Discriminations between the separate forms of a homonym pair are generally presumed to be made on the basis of their semantic features (e.g., Kausler & Olson, 1969). However, discriminations may also be made, at least partially, by tagging the orthographic features that distinguish the forms. An inspection of homonyms reveals that they differ widely in their orthographic distinctiveness (e.g., you, ewe vs seem, seam). With homonyms scaled for orthographic distinctiveness, selections can be made which either vary or control for degree of distinctiveness. The present study reports the results of such a scaling. The method used was similar to the rating method employed earlier by Zechmeister (1969) to measure the orthographic distinctiveness of individual words.

METHOD

There were two standardizations, each involving ratings of the same 139 homonym pairs. The first was part of the first author's dissertation research (Olson, 1970); the second was conducted by the second author as a reliability check. The Ss, 56 and 35 for the first and second scalings, respectively, were general psychology students at St. Louis University. The homonyms were selected from a standard reference source (Kirtland, 1968). Each pair was rated on a 9-point scale (1 = not distinctive; 9 = high distinctiveness). The pairs were presented in a three-page booklet, with the pairs arranged in three columns on each page. Four different randomizations for the pairs were

employed as a control for order effects.

The instructions, as adapted from Zechmeister (1969), included the following: "... words may have tall letters, letters beneath the line, round letters, repeated letters, unusual letters, etc. ... We are interested in how distinctive the two words of the pair are; that is, are they physically similar to each other or are they quite different from each other in appearance ... On the following pages a number of pairs of words are listed. You are to rate each pair as to the relative distinctiveness of its words, compared to one another. A 9-point scale will be used for your ratings ... To carry out your ratings, first study the first pair in the first column, then the second pair, and so on, for approximately the first 10 pairs. Then skip around the page looking at approximately 10 more. This will give you an idea of the range or span of distinctiveness involved, so that you will know better what is distinctive and what is not. After this, go back to the first pair and study it, then assign a number to it from the 9-point scale, where you think it best falls ..."

In addition, the homonym pairs that were not included in an earlier standardization by Galbraith and Taschman (1969) were scored for disparity between forms in their perceived meanings. The procedure followed exactly that of Galbraith and Taschman. The homonyms were read to an independent group of 82 general psychology students. As they heard each word, they were asked to spell it. The proportion spelling each form of a given homonym pair was then determined, and the difference in proportions provided the disparity score for that pair (e.g., the disparity score for "bēch" was 96% in that 98% of the normative sample spelled it as *beach* and 2% as *beech*).

RESULTS AND DISCUSSION

The mean ratings for the 139 homonym pairs averaged over the two standardizations are given in Table 1. Original mean ratings were correlated with the mean ratings obtained on the second standardization. The reliability of the original ratings was found to be

Table 1
Mean Ratings of Orthographic Distinctiveness for 139 Homonym Pairs (Disparity Scores Given in Parentheses)

Homonym Pair		Rating
eye, I	(30)	7.75
phrase, frays	(80)	7.63
colonel, kernel	(30)	7.08
you, ewe	(94)	7.06
graft, graphed	(75)	6.82
no, know	(0)	6.77
higher, hire	(19)	6.35
choose, chews	(91)	6.32
color, culler	(99)	6.32
shoot, chute	(81)	6.30
air, heir	(90)	6.29
away, aweigh	(100)	6.26
wood, would	(94)	6.26
sight, cite	(88)	6.22
side, sighed	(84)	6.12
owed, ode	(15)	6.09
guest, guessed	(72)	6.08
doe, dough	(10)	6.02
profit, prophet	(68)	5.94
oral, aural	(89)	5.91
might, mite	(97)	5.86
sword, soared	(90)	5.78
right, write	(16)	5.75
build, billed	(80)	5.74
him, hymn	(20)	5.74
seed, cede	(85)	5.68
bury, berry	(13)	5.66
earn, urn	(64)	5.66
band, banned	(69)	5.64
cause, caws	(95)	5.52
marshal, martial	(87)	5.52
rap, wrap	(64)	5.50
mince, mints	(6)	5.46
flower, flour	(90)	5.42
rain, reign	(70)	5.42
prince, prints	(25)	5.40
pause, paws	(87)	5.38
hour, our	(74)	5.32
nun, none	(10)	5.24
two, to	(39)	5.23
fairly, ferry	(60)	5.22
graze, grays	(84)	5.16
carrot, carat	(84)	5.15
buy, by	(69)	5.12
scent, cent	(8)	5.12
troop, troupe	(16)	5.12
pole, poll	(64)	5.10
ceiling, sealing	(92)	5.07
peddle, pedal	(1)	5.06
new, knew	(68)	5.00
idol, idle	(20)	4.98
hole, whole	(2)	4.98
coral, choral	(78)	4.90
symbol, cymbal	(90)	4.90
all, awl	(94)	4.81
where, wear	(22)	4.76
rose, rows	(89)	4.74
while, wile	(83)	4.72
finds, fines	(13)	4.69
sum, some	(15)	4.64
great, grate	(84)	4.63
ball, bawl	(100)	4.60
seen, scene	(70)	4.60
semen, seaman	(0)	4.60
blue, blew	(76)	4.57
break, brake	(80)	4.54
guilt, gilt	(97)	4.54
night, knight	(34)	4.50
rest, wrest	(98)	4.50
sail, sale	(30)	4.49
hair, hare	(84)	4.48
which, witch	(25)	4.48
bell, belle	(100)	4.46
bread, bred	(83)	4.46
steak, stake	(70)	4.46

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Table 1 (Continued)

Homonym Pair		Rating	Homonym Pair		Rating
wave, waive	(100)	4.46	faint, feint	(90)	3.73
please, pleas	(93)	4.33	foul, fowl	(34)	3.73
pride, pried	(82)	4.32	flair, flare	(1)	3.71
pale, pail	(26)	4.30	fur, fir	(76)	3.70
fourth, forth	(4)	4.27	bore, boar	(74)	3.65
sore, soar	(64)	4.27	site, cite	(5)	3.56
ale, ail	(30)	4.25	course, coarse	(64)	3.36
shown, shone	(85)	4.23	turn, tern	(87)	3.20
beer, bier	(90)	4.20	surf, serf	(74)	3.18
wine, whine	(86)	4.18	vain, vein	(20)	3.12
mean, mien	(92)	4.14	pour, poor	(80)	3.05
disc, disk	(25)	4.11	birth, berth	(98)	3.04
horse, hoarse	(78)	4.10	vice, vise	(76)	3.04
tail, tale	(60)	4.09	minor, miner	(75)	3.02
main, mane	(70)	4.08	beach, beech	(96)	2.99
intense, intents	(100)	4.05	deer, dear	(20)	2.93
plain, plane	(14)	4.01	lesson, lessen	(78)	2.93
arc, ark	(2)	4.00	duel, dual	(1)	2.90
board, bored	(20)	4.00	team, teem	(80)	2.90
metal, medal	(11)	3.98	meat, meet	(14)	2.89
pain, pane	(70)	3.98	peal, peel	(2)	2.87
stare, stair	(14)	3.98	real, reel	(64)	2.86
born, borne	(90)	3.96	beat, beet	(74)	2.82
piece, peace	(10)	3.94	feet, feat	(70)	2.82
bear, bare	(74)	3.93	steal, steel	(26)	2.80
gate, gait	(74)	3.90	weak, week	(34)	2.80
grown, groan	(20)	3.84	flee, flea	(0)	2.76
cast, caste	(82)	3.83	pray, prey	(74)	2.72
loan, lone	(10)	3.83	navel, naval	(10)	2.67
freeze, frieze	(87)	3.80	capital, capitol	(34)	2.59
fair, fare	(74)	3.79	see, sea	(60)	2.58
cannon, canon	(74)	3.76	seem, seam	(64)	2.44

quite satisfactory, $r(137) = .91$, $p < .001$.

Two structural features seemingly account for most of the variation between homonym pairs in their orthographic distinctiveness. The first is the variation in the number of letters making up the two forms of each homonym pair—forms of unequal letter (by one or two letters) length are generally rated more distinctive

than forms of equal letter length. For the 49 pairs rated greater than 5.00, 77.6% had forms of unequal length. The comparable percentages for the 45 pairs rated between 4.00 and 5.00 and the 45 pairs rated less than 4.00 were 42.2% and 6.7%, respectively. The second feature is whether or not the two forms have the same initial letter—forms with different initial letters are generally rated more

distinctive than forms with the same initial letter. The percentages of pairs with different initial letters were 32.7%, 11.1%, and 2.2% for the > 5.00 , $4.00-5.00$, and the < 4.00 rating ranges, respectively.

The correlation between distinctiveness ratings and semantic disparity scores was found to be low and nonsignificant, $r(137) = .11$, $p > .05$. Orthographic distinctiveness is seemingly a dimension that is independent of the differential familiarity with the separate forms of homonym pairs. The dominant form (i.e., the more frequently spelled form) of each homonym pair is given first in Table 1, and the disparity score for each pair, as determined by either Galbraith and Taschman (1969) or the present authors, is indicated in the parentheses.

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