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Effects of Semantic Relatedness on Same–Different Decisions in a Good–Bad Categorization Task

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Schvaneveldt, Durso, and Mukherji (1982) investigated the effect of relatedness on six kinds of *same–different* categorization tasks. They discovered two distinct patterns of results. For tasks involving surface features of words, relatedness facilitated both *same* and *different* judgments equally, whereas for tasks requiring a semantic analysis, relatedness facilitated same judgments but had no effect on *different* judgments. The only task that did not conform to this division was judgment of *good* versus *bad,* which showed the same pattern as surface-feature tasks. The present two experiments showed that this anomaly was due to the use of antonym word pairs for this task. When nonantonyms are used, there is no facilitation of *different* judgments by relatedness. The nature of antonymy as a semantic relation is discussed.

In a recent article, Schvaneveldt, Durso, and Mukherji (1982) discovered two distinct classes of *same–different* categorization tasks. They were investigating the effects of semantic relatedness on *same–different* category judgments, using six different tasks that varied in the depth of processing required. The particular advance that they made over previous research on this question (Glass, Holyoak, & O'Dell, 1974; Schaeffer & Wallace, 1970) was in devising materials for which relatedness could be manipulated independently of whether a *same* or a *different* response had to be made. Thus, a lack of semantic relatedness between a pair of words could not be used as the basis for a *different* decision (as had been possible in earlier studies). They discovered that for judgments involving *vowel–consonant* (as initial letter of the word), *word–nonword* (where the nonword was a misspelled word), and *good–bad* decisions, a particular pattern of results could be obtained. For these three tasks, semantic relatedness facilitated both *same* and *different* responses equally. For judgments involving *plant–animal, natural–manmade,* or *noun–verb,* however, a different pattern was found. For these tasks, relatedness facilitated *same* decisions, but had a slight inhibitive effect on *different* decisions. The six tasks thus formed two distinct classes, distinguished by the effect of relatedness on the *different* judgments.

In discussing their results, Schvaneveldt et al. (1982) ruled out an explanation of the different patterns in terms of a distinction between semantic and nonsemantic tasks because of the *good–bad* task, which produced a result similar to the other surface-feature tasks. After considering various accounts of the results, they finally proposed a spreading-activation intersection model, in which activation spreads out from each concept and activates both related concepts and related semantic features. Features activated by both words in a pair will fall in the intersection of activation and must then be scanned for information relevant to the particular decision required. Initially, therefore, lexical retrieval of the two words will be faster if they are related because they will activate each other. In the case where the decision is based on purely lexical information—which in the two tasks used by Schvaneveldt et al. (1982) was orthographic information (initial letter, or correct spelling)—there is no need to scan the intersecting semantic connections between the words. Thus, relatedness has a small and equal facilitatory effect on both *same* and *different* responses. However, when the categorization involves a semantic analysis, the existence of irrelevant semantic information

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in the intersection will distract attention in the scan and will slow up the response in the case of related–different word pairs.

Although Schvaneveldt et al. (1982) initially rejected a semantic–nonsemantic basis for distinguishing the two patterns of data, their model nevertheless drew them back to this division. Therefore, they considered the problem of why the *good–bad* task shows the surface-feature-type pattern of equal facilitation for both *same* and *different* responses. They made two alternative suggestions for this anomalous result. First, they suggested that the use of many antonym pairs (such as *clean–dirty* or *heaven–hell*) in the materials for related–different pairs in the *good–bad* task might have led to a fast *different* judgment. Glass, Holyoak, and Kiger (1979) investigated the time taken to falsify direct antonym statements (All brothers are sisters) and indirect antonyms (All brothers are females). They discovered that when the two words are presented together in a dual lexical-decision task (as used by Meyer & Schvaneveldt, 1971), the direct antonyms were verified as both being words 41 ms faster than the indirect antonyms, which were themselves verified 65 ms faster than the unrelated word pairs. In the same experiment, however, there was no effect on decision time of the production frequency for category-item pairs. Therefore, there is evidence that antonymy as a kind of semantic relatedness affects lexical retrieval, whereas frequency in a category does not. One would therefore expect that in a *good–bad* classification task, antonyms would provide rapid retrieval from lexical memory and therefore would show facilitation by relatedness. This account assumes that opposites are encoded as such in the lexicon, leading to immediate recognition of their oppositeness without any further semantic processing being required.

The second proposed account of the *good–bad* result was the suggestion that evaluative information itself may be encoded in and directly activated in lexical memory. Evaluative information may be directly accessible at the same processing level as spelling and phonological information. At first sight, this hypothesis may seem improbable because evaluation in general is highly dependent on the broader context in which a word is placed. Thus *aggression* in the context of the D-Day Normandy landings or the boxing ring may be more positively valued than in the context of the school yard. There are, however, residual evaluative connotations for many words that override context. Osgood's semantic differential technique (Osgood, Suci, & Tannenbaum, 1957) taps these connotational aspects of word meaning. Furthermore, many studies have shown that words can be processed for evaluative content at an early stage, often before awareness of the word's meaning is achieved (Dixon, 1971). Therefore, it is a reasonable hypothesis that lexical memory may be tagged in some general way with the emotional value of a word's meaning, so that irrelevant overlap of semantic features in words of opposite evaluation should not interfere with a rapid *different* judgment.

The present article addresses these two alternative accounts of the *good–bad* task. If the antonym explanation is correct, then using nonantonym pairs for related–different words should remove the facilitation by relatedness for *different* responses. If the primacy of evaluative information account is correct, then relatedness should facilitate *different* responses for both antonym and nonantonym pairs. The following experiment repeated Schvaneveldt et al.'s (1982) *good–bad* task, using either antonyms or nonantonyms as the related–different pairs.

Experiment 1

Method

Design. Subjects were presented with pairs of words and had to judge whether both words were either good or bad (a *same* decision) or whether one was good and the other, bad (a *different* decision). Word pairs differed on three orthogonal factors: semantic relatedness, same versus different category, and antonymy (whether the related–different word pairs were antonyms). The resulting eight types of word pairs were presented in a sequence that was randomized for each subject. The order of the two words within each pair was randomly determined for each subject. When all of the word pairs had been presented once, the order of words within each pair was reversed, and subjects responded again to each pair in a new random sequence.

Materials. Word pairs were created by appropriate selection from four word quadruples: two using antonyms and two using nonantonyms. Twenty judges agreed that the four antonym pairs were indeed opposites. The nonantonym, related–different pairs were chosen to be related in a way that did not involve direct antonymy. The four quadruples are shown in Table 1.

Table 1
The Four Quadruples Used in Experiment 1

Type of word	Nonantonym pairs	Antonym pairs
Good	Cure–Heal	Right–True
Bad	Ill–Disease	Wrong–False
Good	Tickle–Amuse	Profit–Wealth
Bad	Irritate–Annoy	Loss–Poverty

In each case, related word pairs (same or different) were selected from within a quadruple, whereas unrelated word pairs (same or different) were selected between the first and second quadruples. There were 32 word pairs altogether, 4 of each type. Examples of how each of the eight types of pairs in the design were created are given in Table 2. The relatedness of the word pairs was assessed by 20 judges using a 7-point scale. Each subject rated the word pairs twice, a week apart. On the second occasion, the order within each word pair was reversed. Means and standard deviations for the similarity ratings are shown in Table 3. An analysis of variance (ANOVA) revealed a main effect of the relatedness factor, $F(1, 24) = 263$, $p < .0001$. This factor did not interact with either of the other two factors. There was a significant Same–Different × Antonym–Nonantonym interaction, due to the relatively high ratings for same nonantonym pairs. Because the main interest of the experiment lies in relatedness effects on different pairs, this interaction can be safely disregarded. The three-way interaction was not significant. (It should be noted that the rating of relatedness of antonyms is a rather ambiguous task, because in one sense, their meanings are maximally different, yet they are obviously related.)

Procedure. Subjects were tested individually in a session lasting approximately 15 min. They were instructed in the task and in the use of the response lever. Accuracy and speed were emphasized equally. For the first 12 pairs, error feedback was provided. The first 32 trials were practice trials, using materials similar to those used later, and were discarded. Subjects were seated in front of the video display unit (VDU) of a computer on which word pairs were displayed, one word above the other. A warning asterisk appeared 1.5 s before each pair. The pair was displayed until the subject responded by moving a lever to the left of center for a *different* response or to the right of center for a *same* response. Because the same–different factor was not itself of critical interest, all subjects were given the same allocation of lever direction to response. There were 96 trials that consisted of 32 practice trials, 32 critical pairs, and finally the same 32 pairs with order reversed within each pair. The order of trials within each block of 32 was randomized for each subject.

Apparatus. A Commodore 3032 microcomputer was used to randomize and display the stimuli and to time and record the subjects' responses.

Subjects. Nineteen psychology students (12 female) at The City University, London, participated as unpaid volunteers. All had English as their first language and were naive as to the aims of the experiment. No subject who had given ratings of relatedness participated in the main experiment.

Results

Erroneous responses (14%) and 13 latencies of over 5 s (evenly spread across conditions) were excluded from the analysis of response times (RTs). Means and standard deviations for RTs for each type of word pair in each block and for both blocks combined are shown in Table 4, with respective error rates. The means, collapsed across blocks, are displayed in Figure 1. The RT data were analyzed with a four-way ANOVA, with antonymy, response, relatedness, and block as repeated-measures factors. For this analysis, seven cells (2% of the cells) were missing and were filled following the procedure advocated by Winer (1971, pp. 487–490), which assumes no Subject × Condition interaction. Degrees of freedom for the error term were adjusted accordingly. There was a significant main effect of relatedness, $F(1, 11) = 23.51$, $p < .001$. The Antonymy × Response interaction was significant $F(1, 11) = 6.95$, $p < .05$, as was the Antonymy × Relatedness interaction, $F(1, 11) = 14.31$, $p < .005$. Finally, there was a significant Antonymy × Relatedness × Response interaction, $F(1, 11) = 9.66$, $p < .01$. No other effects or interactions were significant at the 5% level. Thus, there were no interactions involving block. The reason for the strong three-way interaction is shown in Figure 1. Relatedness speeded both *same* and *different* responses for the antonym materials (by 366 ms and 347 ms, respectively) but speeded only the *same* responses for the nonantonym set (by 254 ms; relatedness had a 25-ms inhibitive effect on the *different* responses. Analysis of the *different* responses

Table 2
Examples of Word Pairs Used in Experiment 1

Type of word pair	Related pairs	Unrelated pairs
Antonym		
Same	Right–True	Right–Profit
Different	Right–Wrong	Right–Loss
Nonantonym		
Same	Cure–Heal	Cure–Tickle
Different	Cure–Ill	Cure–Irritate

Table 3
Mean (M) and Standard Deviation (SD) for Ratings of Word-Pair Relatedness in Experiment 1

Type of word pair	Antonyms				Nonantonyms			
	Related		Unrelated		Related		Unrelated	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Same	4.9	0.9	2.2	0.7	6.1	0.8	2.4	0.4
Different	5.5	0.5	1.6	0.1	4.6	0.8	1.4	0.2

alone showed equally strong Antonymy × Relatedness interactions in the first and second blocks of the experiment.

A three-way analysis of the error rates (collapsed over blocks) confirmed the pattern reported by Schvaneveldt et al. (1982). There was a main effect of relatedness, $F(1, 18) = 5.7$, $p < .05$, that interacted with response, $F(1, 18) = 9.7$, $p < .01$. Unrelated pairs had more errors than did related pairs, but this was confined to *same* responses.

Discussion

The results obtained reproduce the two distinctive patterns reported by Schvaneveldt et al. (1982). The antonym materials gave the additive pattern previously obtained for the *good–bad* task. With nonantonyms, however, the pattern typical of semantic tasks was now obtained, with facilitation by relatedness only affecting the *same* responses. Unlike Schvaneveldt et al. (1982), the present experiment found *same* responses to be slightly slower than *different* responses. However, in neither study did this difference reach significance, so there is no real inconsistency.

The results therefore support the first of Schvaneveldt et al.'s accounts of their *good–bad* task. Antonyms permit rapid *different* responses. There was no support for the hypothesis that evaluative semantic information is directly activated in lexical memory.

Experiment 1 used a very limited set of materials. Furthermore, each subject saw each word under the four different pairing conditions twice: once in the first block and then again with pair order reversed in the second block. The effects of this frequent repetition of stimulus words may be hard to assess.

Table 4
Mean (M) and Standard Deviation (SD in Milliseconds) of Response Times and Percentage of Errors (E) for Word Pairs in Experiment 1

Type of word pair	Block 1			Block 2			Total			
	M	*SD*	R	*M*	*SD*	R	*M*	*SD*	R	E
Antonyms										
Same			+239			+364			+366	
Related	1,834	537		1,745	588		1,787	515		15
Unrelated	2,073	538		2,109	790		2,153	643		32
Different			+470			+311			+347	
Related	1,627	438		1,598	453		1,620	439		6
Unrelated	2,097	752		1,909	536		1,967	533		5
Nonantonyms										
Same			+41			+439			+254	
Related	1,856	545		1,594	484		1,732	488		11
Unrelated	1,897	538		2,033	709		1,986	584		29
Different			−7			−20			−25	
Related	1,972	557		1,865	524		1,920	491		11
Unrelated	1,965	628		1,845	682		1,895	577		9

Note. R = relatedness effect.

Schvaneveldt et al. (1982) used a design with no repetition at all. The replication of their results and the lack of any interactions with block strongly suggest that the different patterns obtained for antonym and nonantonym materials are most unlikely due to repetition of materials. However the limited number of the words used may give more legitimate cause for concern, following Clark's (1973) critique of the lack of generalizability from experiments with small numbers of materials. Therefore, a second experiment was run, in which 4 times as many words were used for each condition. Reversal of word-pair order was then made a between-groups control factor, so that subjects saw a word only 4 times in 128 trials, as opposed to 8 times in 64 trials. Thus, degree of repetition was reduced by a factor of 4 for Experiment 2.

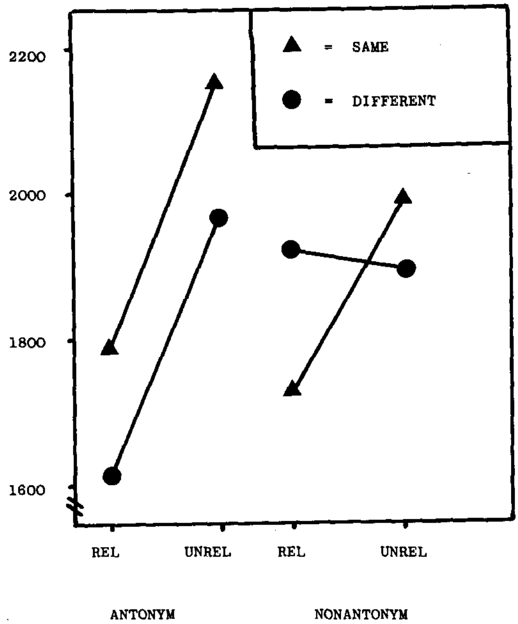

Figure 1. Mean response times (in milliseconds) for each type of word pair in Experiment 1. (REL = related; UNREL = unrelated.)

Experiment 2

Method

Design. The design was the same as for Experiment 1 except that the order within pairs was balanced across subjects, and the antonym–nonantonym factor was blocked within trials.

Materials. Sixteen word quadruples were devised, 8 using antonyms and 8 using nonantonyms as the related–different pairs. The method of selecting the nonantonym quadruples was as follows. In order to choose pairs of words that were different (one good and one bad) and were semantically related but were nonantonyms, two strategies were adopted. Five of the quadruples used pairs of words that were related through some mediating functional relation, as in *doctor* (cures) *illness,* or *harvest* (prevents) *famine.* These pairs may be termed *antagonistic* in meaning but are clearly not opposites. The remaining three quadruples used pairs of words that were synonyms with opposite evaluative connotations. Thus, following Bolinger's description of "prejudicial epithets" (Bolinger, 1975, pp. 252–254), pairs such as *relaxed–idle* or *virtuous–smug* were constructed. Within each quadruple the same part of speech was maintained. The stimuli used are shown in the Appendix. Pairs were constructed from the octuples shown there, in exactly the same way as for Experiment 1. The order within word pair was randomized. Within the different pairs, half had a *good–bad* order, and half a *bad–good* order. The order within word pairs was then reversed for half of the subjects.

The relatedness of the word pairs was assessed by a new set of 12 judges. Each pair was presented once, and the order within pairs was balanced across subjects. Shown in Table 5 are the means and standard deviations for the relatedness judgments, as rated on a scale from *unrelated* (1) to *highly related* (7). An ANOVA across materials showed a main effect of the relatedness manipulation, $F(1, 30) = 308.4$, $p < .0001$. In addition, *same* pairs were more related than were *different* pairs, $F(1, 30) = 69.6$, $p < .0001$), and there was a significant Response × Relatedness interaction, $F(1, 30) = 19.2$, $p < .0001$, with a greater difference in relatedness for *same* than for *different* word pairs. However, there was no significant main effect of antonymy, and no interactions involving antonymy were significant.

An additional group of seven judges assessed each different–related pair for degree of oppositeness. For each pair, the majority of judges confirmed the attribution of the pair to the respective group of materials, and for most pairs, the judges were unanimous.

Procedure. The apparatus and procedure were similar to those used in Experiment 1. The first 16 trials were practice. Then, without a break, followed two blocks of 64 test trials each, with a rest for the subject between the two blocks. The experiment lasted about 25 min. Half of the subjects responded to the antonym materials in Block 1 and the nonantonyms in Block 2, and the other half had the reverse order.

Subjects. Sixteen undegraduate students from The City University, London, were paid to take part in the experiment. None had been used in Experiment 1 or in the rating of materials.

Results

Errors (16%) and six latencies of over 5 s were excluded from the analysis of RTs. An analysis of error rates showed more errors for the nonantonyms (20%) than for the antonyms (12%) and showed more errors for

Table 5
Mean (M) and Standard Deviation (SD) Ratings of Relatedness of Word Pairs for Experiment 2

Type of word pair	Antonym set				Nonantonym set			
	Related		Unrelated		Related		Unrelated	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Same	5.5	0.9	1.9	0.5	5.0	1.2	1.9	0.6
Different	4.0	0.3	1.3	0.2	3.6	1.1	1.5	0.4

the same–unrelated pairs (30%) than for the other three conditions (12%). An ANOVA confirmed these as the only significant effects. The high error rate for same–unrelated pairs was partly due to 2 subjects who averaged 86% errors in the same–unrelated conditions. Presumably they were using a strategy of saying *different* to all unrelated pairs. Removing their data had no effect on the overall picture of the results, so they were included in the analysis. Means and standard deviations for RTs in each condition are shown in Table 6 and are displayed in Figure 2.

An ANOVA with three repeated measures variables of response, relatedness, and antonymy showed significant main effects of antonymy, $F(1, 15) = 20.5$, $p < .001$, and of relatedness, $F(1, 15) = 20.7$, $p < .001$; significant two-way interactions between response and relatedness, $F(1, 15) = 5.4$, $p < .05$; and between antonymy and relatedness, $F(1, 15) = 4.8$, $p < .05$; and a significant three-way interaction, $F(1, 15) = 9.39$, $p < .01$. Inspection of Figure 2 shows a clear interpretation for this pattern of significant effects. The antonym word sets were about 300 ms faster overall than the nonantonym materials. Response interacted with relatedness for the nonantonyms but did not interact for the antonyms. For antonyms, relatedness speeded RT for both the *same* (149 ms) and the *different* (194 ms) responses, whereas for nonantonyms, relatedness speeded RT for *same* responses (200 ms) but slowed down RT for *different* responses (by 119 ms).

The generality of the results was tested across materials by considering each of the eight octuple sets of words individually. For each of the four nonantonym octuple sets, relatedness speeded the *same* decision (by 204 ms to 354 ms) and delayed the *different* decisions (by 33 ms to 214 ms). For each of the four antonym octuples, relatedness speeded both the *same* responses (by 33 ms to 238 ms) and the *different* responses (by 105 ms to 411 ms). The results are therefore consistent across the materials used and may be generalized to other materials selected in the same way.

Finally, the individual word-pair data for *different* responses were analyzed to see if a *good–bad* as opposed to a *bad–good* order was easier to process. The results showed no consistently faster order in any of the four *different* conditions.

Discussion

The results of the second experiment are in close agreement with those of the first.

Table 6
Mean (M) and Standard Deviation (SD in milliseconds) of Response Times and Percentage of Errors (E) for Each Type of Word Pair in Experiment 2

Type of word pair	Antonym set							Nonantonym set						
	Related			Unrelated				Related			Unrelated			
	M	*SD*	E	*M*	*SD*	E	R	*M*	*SD*	E	*M*	*SD*	E	R
Same	1,342	406	10	1,491	500	23	+149	1,608	431	15	1,808	468	37	+200
Different	1,365	330	10	1,559	427	7	+194	1,895	432	16	1,776	422	11	−119

Note. R = relatedness effect.

When *different* pairs are related by antonymy, judgments are fast. When they are related in other ways, judgments of their difference on a *good–bad* dimension are slower.

Returning to the two hypotheses advanced by Schvaneveldt et al. (1982) to account for their results, the explanation in terms of antonym pairs in the related–different condition is clearly preferred. Using nonantonym, related–different pairs such as *Medicine–Infection, Saint–Sin,* or *Confident–Arrogant* did not allow subjects to make a faster *different* decision than for unrelated pairs. Indeed, for 12 of the 16 subjects the decision was actually inhibited when the words were related, $t(15) = 2.43$, $p < .05$, two-tailed. However, this inhibition was not significant across materials, $t(15) = 1.68$, $p < .10$, two-tailed.

It appears that there are two main conditions under which semantic relatedness can speed a *different* decision. One such condition is where the decision can be based on purely lexical information (i.e., orthographic information). The other is where the two words are antonyms in a strict sense of the word, such that people would readily generate either word as the opposite of the other (as in *right–wrong*). Why should antonyms display this effect?

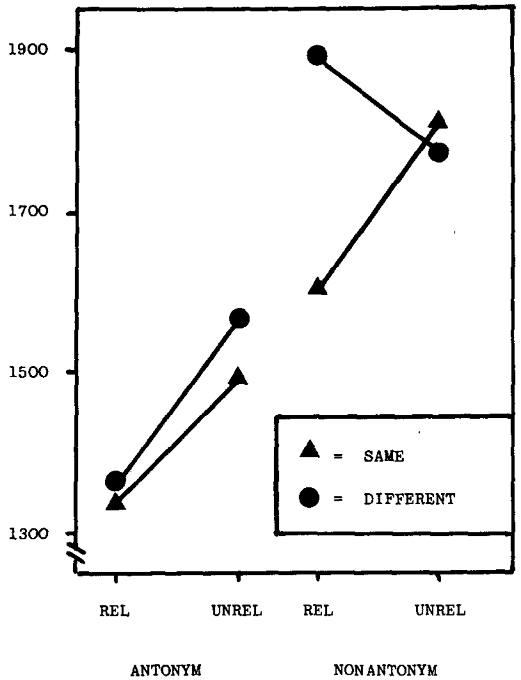

Figure 2. Mean response times (in milliseconds) for each type of word pair in Experiment 2. (REL = related; UNREL = unrelated.)

Semantically, antonyms refer to opposing ends of a single, graded dimension (Lyons, 1968, pp. 460–470). On consideration, it appears that when a term has both a substantive and an evaluative component, its opposite will have reversed values on both dimensions, generally speaking. Thus, the opposite of *brave* is not *prudent,* which reverses the substantive dimension of cautiousness but keeps the same positive evaluation, or *foolhardy,* or *rash,* which reverses the evaluation while keeping the same substantive value, but is in fact *cowardly,* which changes both substantive and evaluative values. Similarly, the opposite of *modest* is *immodest,* and the opposite of *confident* is *unconfident;* in each case both the main substantive dimension and the evaluative component are reversed. The effect of this regularity in the formation of antonyms of this type is that the two dimensions (substantive and evaluative) will be correlated. If two words differ on the substantive dimension, then they also differ in evaluation, and vice versa. Thus, there will be no interference from the semantic relatedness derived from a relation of antonymy to the making of a judgment that two antonyms differ in evaluation.

This same principle does not hold for the corresponding pairs in the nonantonym word sets used in the present experiments. Thus, in comparing *modest* with *prudish,* or *confident* with *brazen,* the substantive semantic dimension (shyness) is unchanged, and only the evaluation is altered.

In the context of Schvaneveldt et al.'s (1982) intersection model, it can be seen how antonyms would permit rapid *different* decisions. Because the substantive and evaluative dimensions are always correlated for antonyms, there will be no matching semantic feature to distract attention from the difference in meaning. For related nonantonyms however, there will be some semantic features that match, even when the response to be made is *different.* First, for "antagonistic" pairs such as *charity–hardship,* one can assume that there will be matching functional relations defining the meaning of each word in terms of a general schema of concepts related to poverty, welfare, gifts, and so on. For the second type of nonantonym pair, the synonym pairs like *modest–prudish,* as we have noted, the matching semantic features are clearly present because each word has the same value on the substantive dimension.

General Conclusions

The results presented here are entirely consistent with the model proposed by Schvaneveldt et al. (1982). The primary distinction determining whether semantic relatedness will facilitate a *different* response appears to be the involvement of semantic (as opposed to orthographic) information. In addition, antonym pairs can be speedily judged to be *different* perhaps because those used in these experiments take contrary values on both substantive and evaluative dimensions. One can hypothesize that lexical retrieval may always be facilitated by the immediately preceding retrieval of a related word (as shown in many previous studies, e.g., Meyer & Schvaneveldt, 1971; 1976), whereas semantic categorization is inhibited by the existence of information contrary to the required response. There is good evidence elsewhere for this inhibitory effect in categorization (see, e.g., Hampton, 1979). This inhibition can be conceived in terms of distracting information in a network retrieval process (Collins & Loftus, 1975; Schvaneveldt et al., 1982) or alternatively in terms of an accumulation of evidence in favor of a positive or negative response, based on a computation of feature overlap (Hampton, 1979; McCloskey & Glucksberg, 1979; Smith, Shoben, & Rips, 1974). The distinction between lexical facilitation and semantic interference that comes out of the present studies is of major importance in constraining the development of theories of semantic memory. The present article accounts for a possible anomaly in a general account of the phenomenon of semantic relatedness effects based on the distinction between lexical and semantic categorization tasks, by showing antonyms to be a special case of semantic relatedness.

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Appendix

Materials Used in Experiment 2

		Nonantonym sets		
Good	Doctor	Medicine	Relaxed	Leisurely
Bad	Illness	Infection	Idle	Lazy
Good	Nutrition	Harvest	God	Saint
Bad	Hunger	Famine	Evil	Sin
Good	Protection	Rescue	Virtuous	Modest
Bad	Harm	Danger	Smug	Prudish
Good	Charity	Benefactor	Courageous	Confident
Bad	Hardship	Poverty	Brazen	Arrogant
		Antonym sets		
Good	Success	Victory	Clean	Neat
Bad	Failure	Defeat	Dirty	Messy
Good	Angel	Heaven	Laughter	Comedy
Bad	Devil	Hell	Crying	Tragedy
Good	Clever	Wise	Sweet	Nice
Bad	Stupid	Foolish	Bitter	Nasty
Good	Happy	Smiling	True	Right
Bad	Sad	Frowning	False	Wrong

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