

Short Note

Using primed exemplars during impression formation: interpretation or comparison?

DIEDERIK A. STAPEL and WILLEM KOOMEN
*Department of Social Psychology, University of
Amsterdam, The Netherlands*

Abstract

Two studies demonstrate that when priming stimuli consist of (1) trait concepts and person exemplars, (2) trait concepts and non-person exemplars, (3) only non-person exemplars, assimilation in judgments of an ambiguous person follows. However, when priming stimuli consist of (4) only person exemplars, contrast in judgments of both ambiguous and well-known persons ensues.

INTRODUCTION

How we interpret and judge the behavior of ourselves and others often depends on the relative accessibility of applicable constructs at the time of judgment. Research by Philippot, Schwarz, Carrera, De Vries and Van Yperen (1991) has demonstrated that the direction of so-called 'knowledge accessibility' effects (Higgins, 1996) may depend on whether accessible information is used in the *encoding* stage or in the *judgment* stage of impression formation (see also Schwarz & Bless, 1992; Wyer & Srull, 1989). Philippot *et al.* exposed participants to person exemplars that were either prototypically friendly (e.g. Ghandi) or hostile (e.g. Hitler). After this priming task respondents were asked

Addressee for correspondence: Diederik A. Stapel, Department of Social Psychology, University of Amsterdam, Roetersstraat 15, 1018 WB Amsterdam, The Netherlands, fax: (31) 20 639 1896, e-mail: sp_stapel@macmail.psy.uva.nl.

We thank Marie-Anne Stapel and students of the 'De Goudse Scholengemeenschap' for their assistance with data collection. Participants of the 'categorization and social information processing workshop' at the 1994 Summer School of the European Association of Experimental Social Psychology in Serock, Poland are thanked for many stimulating discussions about the studies reported here.

This research was supported by grant 575-70-074 from the Dutch Science Foundation (Nederlandse Organisatie voor Wetenschappelijk Onderzoek).

to form an impression of a target person whose actions were ambiguous with respect to hostility. Results showed 'contrast' away from the primed exemplars: the target was rated more friendly when hostile exemplars were primed and more hostile when friendly exemplars were primed (see also Herr, 1986). Philippot *et al.* also had their respondents evaluate their room-mates. These judgments also showed contrast effects after exemplar priming. Since evaluation of these familiar and well-known targets required little new interpretation these contrast effects can be taken to reflect influences at the *judgment*, rather than the *encoding* stage (see Philippot *et al.*, 1991; Schwarz & Bless, 1992; Stapel, Koomen & Van der Pligt, 1996a,b; Wyer & Srull, 1989). However, when the primed exemplars were accompanied with the trait concepts they exemplify (i.e. friendly or hostile), participants 'assimilated' their judgments to the primed constructs, but *only* did so in their evaluations of the ambiguous target, not in their judgments of the well-known target. According to Philippot *et al.* (1991) these findings suggest that if exemplar primes are accompanied with the trait concepts they exemplify, participants will use these trait concepts in the *encoding* stage and assimilation is likely to ensue. If exemplar primes are not accompanied with applicable trait concepts 'no trait concept should be primed' and such *assimilative interpretation* is less likely to occur. However, as Philippot *et al.* (1991) argue, in this case *contrastive judgment* effects may occur: exemplar primes 'may still affect subsequent judgments. If the individual recalls the prime when judging the target behaviour along a relevant trait dimension, the prime may serve as an anchor, resulting in a contrast effect'. (Philippot *et al.*, 1991, p. 295; see also Wyer & Srull, 1989).

In this article we attempt to extend and amend Philippot *et al.*'s conceptualization of the effects of primed exemplars on impression formation. Similar to Philippot *et al.*, we posit that exemplar primes may be used as a comparison standard. However, in contrast to them, we hypothesize that exemplar priming may also—and *irrespective* of whether it is accompanied by trait concepts—exert its effects as an interpretation frame. Exemplar primes, be they animal names as 'shark' or, as is the case in the present research, person names, such as 'Hitler', or names of abrasives and detergents, such as 'Calgon', are cognitively associated with the categorical dimension or trait concept they exemplify (e.g. 'hostility'). As Higgins (1996, p. 147) states in his review of the knowledge accessibility literature, 'all accounts of accessibility effects are in terms of "associations", "linkages", or "connections" that permit the activation of one knowledge unit to influence the activation potential of another'. In other words, exemplar priming may increase the excitation level of exemplar-associated trait concepts. When these trait concepts are relevant to the interpretation of an ambiguous target stimulus, they may be used to disambiguate this stimulus. This implies that besides being used as scale anchor in the judgment stage, exemplar primes may exert assimilation effects during encoding. Indeed, whereas most studies of accessibility effects prime *trait concepts* and find *assimilation* (see Higgins, 1996; Wyer & Srull, 1989), several studies have primed *exemplars* and also found *assimilation* (e.g. Herr, Sherman, & Fazio, 1983; Herr, 1986; Stapel *et al.*, 1996a). In the present research, we hypothesize that one of the determinants of whether assimilation or contrast will occur after exemplar priming is the perceived *distinctness* and *comparison relevance* of the activated information. As classic

studies by Brown (1953) and Helson (1964) have demonstrated, stimuli that do not provide judges with information that is perceived as distinctive and relevant will not be used as subjective standards for purposes of comparison (see also Manis, Biernat, & Nelson, 1991; Stapel *et al.*, 1996a,b).

Translated to the present concerns, the *comparison relevance* notion implies that when the task is to judge a target person, non-person exemplars such as 'shark' or 'Calgon' may exert influence during encoding when the traits they exemplify are relevant to the interpretation of the target. However, in such tasks non-person exemplars may not be similar enough to the target category to also be used as a *relevant* comparison standard during judgments. As Brown argued when discussing the importance of comparison relevance: 'The anchor, to be effective, must be perceived as a member of the same class' as the target (1953, p.210). Person exemplars, on the other hand, are similar to the target and can therefore be used as relevant standards in person judgments.

Similarly, the *distinctness* notion suggests that when (person *or* non-person) exemplar primes are accompanied with the trait concepts they exemplify, participants 'will process the primes in terms of traits' (Philippot *et al.*, 1991, p. 295 and see pp. 300–301). Abstract trait concepts such as 'lust', 'hostility', or 'beauty' will be perceived as less distinct than specific prototypes and/or cultural icons that exemplify these categories (e.g. 'Marilyn Monroe', 'Adolph Hitler', 'Cindy Crawford'). A specific prototype or a concrete icon, such as 'a famous person', constitutes a distinct and separate entity with relatively clear object boundaries and is therefore more likely to be used as a comparison standard. An abstract trait concept or attribute with no clear object boundaries lacks the distinctness to be used as a comparison standard (see Wyer & Srull, 1989, p. 134). When relevant to interpretation of the target, however, such information may exert its influence during encoding. Or, as Murphy and Zajonc (1993) put it: 'Because of its diffuse quality', such information 'can "spill over" onto unrelated stimuli'.

Similar to this line of reasoning, Wyer and Srull (1989) argued that respondents are more likely to use accessible information as an interpretation frame when that information consists of an abstract (indistinct) attribute concept (e.g. 'hostility'), whereas it is more likely to serve as an extreme comparison standard when a concrete (distinct) attribute-object link (e.g. a 'hostile Adolph') is activated. The logic of our distinctness argument is also consistent with Schwarz and Bless's (1992) inclusion/exclusion model of assimilation and contrast effects. This model predicts assimilation when a primed construct is included in the target and contrast when the primed information is excluded from the target. *Broader* and *less distinct* priming stimuli are likely to be 'included' in and assimilated to the target stimulus. Likewise, *narrow* and *distinct* priming stimuli are likely to be 'excluded' from and may be contrasted to the target stimulus (see for related arguments Clore, 1992, p. 157; Higgins, 1996, p. 151; Martin, 1986, p. 495).

In sum then, based on well-established models of context effects (e.g. Brown, 1953; Helson, 1964; Herr, 1986; Manis *et al.*, 1991; Murphy & Zajonc, 1993; Schwarz & Bless, 1992; Wyer & Srull, 1989), we hypothesize the following. *Similar* to the Philippot *et al.* perspective we expect that when exemplar primes are accompanied with trait concepts this information will exert its influence primarily during encoding and result in assimilation because these exemplars are then processed in terms of

these indistinct traits. In *contrast* to the Philippot *et al.* perspective, however, we expect that the effects of exemplar priming *per se* (with no explicit mention of trait concepts) can be contrastive as well as assimilative. We hypothesize that an important determinant of the relative strengths of these effects of ‘exemplar only’ priming is the degree of comparison relevance of the primed exemplars. Exemplar primes may be used as an interpretation frame during encoding, but when these exemplars are comparison relevant these assimilative processes may be ‘overruled’ by contrastive comparison processes.

The core of our hypotheses thus focuses on the use of primed information as an interpretation frame in the encoding stage or as a comparison standard in the judgment stage of impression formation (Schwarz & Bless, 1992; Wyer & Srull, 1989). But how can we observe whether a particular priming effect emerged because activated information was used as an interpretation frame or as a comparison standard? Following previous studies of encoding versus judgment processes (Herr *et al.*, 1983; Philippot *et al.*, 1991; Schwarz & Bless, 1992; Stapel *et al.*, 1996a), in the present studies we focus on the effects of the *ambiguity* of the target stimulus. Evaluation of *unambiguous* targets requires little interpretation. Therefore, when priming effects are found on judgments of such stimuli, this is likely to reflect influences at the judgment, rather than the encoding stage.

In conclusion, our predictions are the following: (1) when *both* person exemplars and trait concepts are primed, assimilative interpretation effects in judgments of ambiguous targets will result. No such encoding effects are expected to appear in judgments of well-known targets. Conversely, when *only* person exemplars are primed, contrastive judgment effects will result in judgments of both ambiguous and well-known targets. Note that these predictions mirror those of Philippot *et al.* (1991). (2) When *non-person* exemplars are primed, irrespective of whether these non-person exemplar primes are accompanied with trait concepts, assimilative interpretation effects will occur in judgments of ambiguous targets. No effects will appear in judgments of well-known targets. Note that these predictions extend the Philippot *et al.* (1991) perspective.

We tested these predictions in two experiments. Study 1 was designed to replicate the key findings of the Philippot *et al.* study: participants had to evaluate both an ambiguous and well-known target stimulus under conditions in which they were either primed with only *person* exemplars or both *person* exemplars and trait concepts. In Study 2, the hypothesis was tested that priming *non-person* (detergent) exemplar primes may lead to assimilation because they do not constitute applicable comparison standards.

STUDIES 1–2: METHOD

Because the two studies reported here are similar in procedure and dependent measures we describe their common features below.

Procedure

Participants were administered a survey that 'was part of a project on Reading and Judging Written Texts'. In the introduction of this questionnaire participants were asked to carefully read the text about 'Donald' that appeared on the next page and to form an impression of Donald. The description of Donald was a Dutch translation of the ambiguous hostile/friendly Donald paragraph used in previous priming research (e.g. Herr, 1986; Philippot *et al.*, 1991; Srull & Wyer, 1979). On the next pages of the booklet all participants were asked to indicate their impressions of Donald and a good friend on several trait dimensions. As an introduction to the priming manipulation, the following text was presented on page 2 before the Donald paragraph (which was presented on page 3): 'We are daily confronted with all kinds of information. Sometimes this information is specific and brief. When we are confronted with such information we attempt to form an impression that is as good and precise as possible. For example, we will have to work hard to form an impression of the following piece of succinct information: . . .'. Then, on the next line, as an example of succinct information the priming stimuli (e.g. 'Dracula, Stalin, and Hitler') were presented printed in bold letter type. Subsequently, in the following paragraph it was mentioned that sometimes 'we have to process more elaborate information. When this is the case we will have to form an impression of this information in another way'. The Donald paragraph that participants were about to read was then mentioned as an example of 'more elaborate information'. When participants were finished, the questionnaires were collected, and participants were thanked and debriefed.

Participants

Dutch high school students (mean age 16 years; 61 per cent females and 39 per cent males) participated in studies 1 ($n = 72$) and 2 ($n = 72$) and were distributed randomly across conditions. The experiments were conducted in groups of 7–31 persons.

Priming stimuli

In each of the studies the priming stimuli participants were exposed to were all relevant to the dimension on which the description of Donald's behaviours was ambiguous. Participants assigned to *hostile priming* conditions were exposed either to three exemplars and trait concepts that denoted hostility or to only three 'hostile' exemplars. Participants assigned to *friendly priming* conditions were exposed either to three exemplars and trait concepts that denoted friendliness or to only three 'friendly' exemplars. The exemplars used were selected on the basis of a pretest with 30 participants. This pretest indicated that on the relevant dimension, the hostile exemplars (e.g. 'Stalin' or 'Calgon') and friendly exemplars (e.g. 'Ghandi' or 'Woolite') we used differed significantly, whereas within the group of hostile exemplars and within the group of friendly exemplars, person and detergent exemplars did not differ significantly: on a 9-point scale (1 = hostile, 9 = friendly), each of the (person or detergent) hostile exemplars was rated more 'hostile' ($M = 1.8$

and $M = 2.0$, respectively) than each of the (person or detergent) friendly exemplars ($M = 6.0$ and $M = 6.1$, respectively), $t_s(29)$, $p_s < 0.001$.

Dependent measures

Our hypotheses partly concern effects on ambiguous and well-known¹ targets. Therefore, participants were asked to evaluate both Donald (the ambiguous target) and a good friend (of their own sex) on 10 unipolar trait dimensions that were adapted from Srull and Wyer (1979; cf. Philippot *et al.*, 1991). Participants indicated their impressions by scoring five trait dimensions that implied either a high or a low degree of hostility ('hostile', 'aggressive', 'unkind', 'considerate', 'amicable') and five dimensions that were unrelated to hostility ('selfish', 'fretful', 'intelligent', 'dependable', 'helpful'). Inclusion of the latter scales would decrease the possibility that participants would become suspicious that the concept of interest was hostility-related. Related and unrelated rating scales were interspersed with each other. Ratings were made along a scale from 1 ('not at all') to 9 ('extremely'). Ratings of the ambiguous and well-known target were counterbalanced to be able to control for possible order effects. In the two studies reported here, the effects of the independent variables were tested in analyses of variance (ANOVAs). Neither of the studies showed main or interaction effects for the order of judgments of the ambiguous and well-known target on any of the dependent measures². Similarly, in neither of the studies were priming effects found on the unrelated rating scales. As a consequence we ignored these factors in the Results sections.

Reliability analyses of the applicable trait ratings were conducted to form a composite scale of these five ratings. In each study this 'applicable ratings index' was quite reliable (Cronbach's alphas > 0.72). Participants' mean score on this scale, ranging from 1 (negative) to 9 (positive), was used as a dependent variable in the

¹It is important to note that here we use the term 'well-known target' whereas others have used the term 'unambiguous target' (Herr *et al.*, 1983; Philippot *et al.*, 1991). We prefer to talk about well-known targets because in our studies participants are not asked to evaluate a target that is described by 'unambiguous behaviours' but to judge 'a good friend'. To what extent the differences between this target and ambiguous Donald centre around the concept of 'ambiguity' is not exactly clear. Of course, by definition well-known, familiar targets are well-defined objects that need hardly any interpretation. It is unlikely that respondents will have to encode new information about their close friends. However, respondents are also likely to have relatively more information about 'good friends' and to evaluate them relatively positively. These features (quantity and valence of information) distinguish these targets from 'ambiguous' Donald in addition to ambiguity *per se*. This being said, however, most relevant for the present concerns is the notion that comparing a 'well-known' target to an 'ambiguous' target allows us to study the differences between the encoding and judgment effects of accessible knowledge. It is likely that the ambiguity of target information rather than its quantity or valence is most relevant to the occurrence of such differences (see also Herr *et al.*, 1983; Stapel *et al.*, (1996b).

²This null-effect of the order manipulation may be due especially to the fact that in the questionnaire the questions about the ambiguous and well-known targets were presented as two separate, unrelated tasks. As investigations of context-effects in survey research have shown, when tasks are perceived as being unrelated to each other order effects are less likely. Furthermore, for order (or context) effects to occur the contextual cue has to be rather extreme to be able to exert any influence (see Schwarz & Bless, 1992). As our results show, judgments of 'Donald' and a 'good friend' were rather moderate. Finally, other researchers who have asked participants to judge both ambiguous and well-known targets did not find order effects (see Herr *et al.*, 1983; Philippot *et al.*, 1991; Stapel *et al.*, 1995; Wyer & Srull, 1989).

analyses. Treating ratings of Donald and the participant’s friend as a within-subjects factor revealed main effects of target ($F_s > 100$, $p_s < 0.0001$), indicating that participants evaluated their friend more positively than Donald in both studies. No significant interactions between the target factor and the independent variables were found. Separate analyses of the ratings of Donald and participants’ friends are reported in the Results sections.

STUDY 1: PERSONS AND TRAITS

Method and Results

Participants were randomly assigned to the conditions of a 2 (person exemplar valence: hostile, friendly) × 2 (trait concept: mentioned, not mentioned) between subjects design. In the conditions in which no trait concepts were mentioned hostile person exemplar participants were primed with ‘Dracula, Stalin and Hitler’ and friendly person exemplar participants with ‘Aladdin, Ghandi and Mandela’. In the conditions in which trait concepts were mentioned these exemplars were accompanied with ‘mean, violent and unfriendly’ and ‘nice, gentle and friendly’, respectively.

Table 1 shows participants’ mean ratings on the index of the applicable ratings of Donald and a good friend as a function of the manipulations. An ANOVA revealed a marginally significant trait concept × target effect, $F(1,68) = 2.95$, $p < 0.09$. No main or other interaction effects were found (person exemplar valence × trait concept × target, $F(1,68) = 1.65$, $p = 0.20$; person exemplar valence × target, $F(1,68) = 2.07$, $p = 0.15$; valence, $F(1,68) = 1.49$, $p = 0.23$; other effects, $F_s < 1$). As can be seen in Table 1, the pattern of means confirms our predictions.

For ratings of the ambiguous target an ANOVA revealed the expected person exemplar valence × trait concept interaction $F(1,68) = 6.66$, $p < 0.05$. As can be seen

Table 1. Mean ratings of Donald and good friend as a function of person exemplar valence and trait concept

	Person exemplar valence	
	Friendly	Hostile
Ratings of Donald		
Trait concept		
Mentioned	4.3	3.5
Not mentioned	3.8	4.5
Ratings of good friend		
Trait concept		
Mentioned	7.5	7.7
Not mentioned	6.9	7.6

Note. Scale range is from 1 to 9. Higher scores indicate more positive ratings.

in Table 1, these ratings revealed a contrast effect when only person exemplars were primed. Ratings of Donald were more positive ($M=4.5$) when hostile persons were primed and more negative ($M=3.8$) when friendly persons were primed, $F(1,68)=2.68$, $p<0.10$. However, ratings of the ambiguous target revealed an assimilation effect when these person primes were accompanied with the trait concepts they exemplify. Ratings of Donald were more negative ($M=3.5$) when hostile persons + concepts were primed and more positive ($M=4.3$) when friendly persons + concepts were primed, $F(1,68)=3.32$, $p<0.10$.

For ratings of the well-known target, we predicted an interaction between person exemplar valence and trait concept. An ANOVA revealed a significant main effect for person exemplar valence, $F(1,68)=4.74$, $p<0.05$ and a marginally significant main effect of trait concept, $F(1,68)=2.79$, $p<0.10$. The person exemplar valence \times trait concept interaction was not significant, $F(1,68)=1.13$, $p=0.29$. As is obvious from Table 1, ratings of the well-known target resulted in contrast when person exemplars were not accompanied with trait concepts. Ratings of participants' friends were more positive ($M=7.6$) when hostile persons were primed and more negative ($M=6.9$) when friendly persons were primed, $F(1,68)=5.25$, $p<0.05$. As predicted, when persons + concepts were primed these ratings did not differ significantly ($F<1$).

STUDY 2: DETERGENTS AND TRAITS

Method and Results

Participants were randomly assigned to the conditions of a 2 (detergent exemplar valence: hostile, friendly) \times (trait concept: mentioned, not mentioned) between subjects design. In the 'hostile' conditions in which no trait concepts were mentioned participants were primed with brand names of 'unfriendly' detergents that are well-known in The Netherlands: 'Calgon, Soda and Jif'. In analogous 'friendly' conditions the brand names used were 'Silan, Robijn and Woolite'. In the conditions in which trait concepts were mentioned these exemplars were accompanied with 'mean, violent and unfriendly' and 'nice, gentle and friendly', respectively.

Table 2 shows participants' mean ratings on the index of the applicable ratings of Donald and a good friend as a function of the manipulations. An ANOVA revealed the following: person exemplar valence, $F(1,68)=2.39$, $p<0.13$; person exemplar valence \times target, $F(1,68)=1.45$, $p=0.23$; person exemplar valence, $F(1,68)=2.39$, $p=0.13$; other effects, $F_s<1$. As can be seen in Table 2, the pattern of means confirmed our predictions.

Ratings of Donald were, as predicted, more positive ($M=4.1$) when friendly detergents were primed and more negative ($M=3.6$) when hostile detergents were primed, $F(1,68)=3.19$, $p<0.05$ (one-tailed), irrespective of whether trait concepts were or were not mentioned along with the primed detergents.

Ratings of the well-known target were, as predicted, not affected by either of the independent variables ($F_s<1$).

Table 2. Mean ratings of Donald and good friend as a function of detergent exemplar valence and trait concept

	Detergent exemplar valence	
	Friendly	Hostile
Ratings of Donald		
Trait concept		
Mentioned	4.1	3.5
Not mentioned	4.1	3.7
Ratings of good friend		
Trait concept		
Mentioned	7.5	7.6
Not mentioned	7.8	7.6

Note. Scale range is from 1 to 9. Higher scores indicate more positive ratings.

DISCUSSION

The two studies presented can be interpreted as support for the notion that judgments of an ambiguous target person are assimilated to accessible knowledge when that knowledge consists of either non-person exemplars or person exemplars *and* trait concepts that apply to the interpretation of the person target. Judgments of both ambiguous and well-known target persons are contrasted with accessible knowledge when that knowledge consists of *only* extreme person exemplars. Our explanation of these assimilation and contrast effects centres around the notion that stimuli which do not provide judges with ‘distinct’ and ‘comparison-relevant’ information are unlikely to be used as a standard in the judgment process (see Brown, 1953; Helson, 1964; Higgins, 1996; Manis *et al.*, 1991; Schwarz & Bless, 1992; Stapel *et al.*, 1996a,b). When an exemplar prime is accompanied with a trait concept (e.g. hostility) it will not be perceived as distinctive enough to serve as a comparison standard against which a person can be contrasted in the judgment stage. Similarly, a non-person exemplar (e.g. the detergent name ‘Calgon’) lacks sufficient comparison relevance to be used as a scale anchor. Conversely, a person exemplar (e.g. Hitler or Ghandi) can be perceived as a sufficiently distinct and relevant entity to play the role of comparison standard in the judgment stage.

As noted before, the present perspective on knowledge accessibility effects both incorporates and extends the one offered by Philippot *et al.* (1991). *Incorporates*, because it asserts that exemplar + trait priming results in assimilative interpretation effects, whereas exemplar priming may lead to contrastive judgment effects. *Extends*, because we find that these contrast effects of exemplar priming are conditional on whether person or non-person exemplars are used as priming stimuli: whereas person exemplar priming leads to contrast, non-person exemplar priming results in assimilation.

Following both Wyer and Srull (1989) and Higgins (1996), we have argued that exemplar primes are cognitively associated with the trait concept they exemplify (see also Herr, 1986; Herr *et al.*, 1983). When exemplars are primed that are not readily used as a comparison standard (because they do not belong to the same category as the target), the increased excitation level of trait concepts that are associated with

exemplars may make it more likely that assimilation rather than contrast follows. When exemplar primes can be readily used as a comparison standard, these assimilative interpretation effects are more likely to be overruled by contrastive judgment effects that occur later in the impression formation process³.

Our perspective extends previous theorizing on the stages in which category accessibility may have effect by delineating in what stage of the impression formation process which sort of information is likely to exert its effect (cf. Manis *et al.*, 1991; Schwarz & Bless, 1992; Wyer & Srull, 1989) and is supported by the results of other studies we recently completed (see Stapel *et al.*, 1996a,b). For example, based on earlier research that delineated conditions under which exposure to trait-implicating behaviors (e.g. 'He knew he was the best and he didn't hesitate to tell people about it' implies 'conceitedness') is likely to activate either an abstract, indistinct trait concept (e.g. 'conceited') or a distinct and comparison relevant person exemplar (e.g. 'Paul is a conceited person'), we found assimilation in subsequent judgments of an ambiguous target when trait concepts were activated and contrast when specific actor-trait links were primed (Stapel *et al.*, 1996b). When it concerns the delineation of encoding versus judgment effects we acknowledge, however, that the present results are far from conclusive. We hope that our findings will provide pointers for future research. Besides our 'target ambiguity' manipulation, other experimental procedures can be used to distinguish priming effects that occur during encoding from effects that occur during judgment. For example, the timing of exposure to primes (before or after target encoding), the timing at which a 'cognitive load' instruction is introduced (during target encoding or during judgment), or the extent to which priming effects generalize (effects only on target judgment or also on other judgments) could be employed in future studies (see Higgins, 1996; Schwarz & Bless, 1992; Stapel *et al.*, 1996a; Wyer & Srull, 1989).

In sum, the studies reported here imply that when investigating the implications of knowledge accessibility it is essential to know what *type* of knowledge (e.g. level of distinctness, comparison relevance) is accessible and at what *stage* (encoding or judgment) of the impression formation process this knowledge is employed. Future research should focus on how and why people use different types of knowledge when construing social representations and constructing social judgments.

REFERENCES

- Brown, D. R. (1953). Stimulus-similarity and the anchoring of subjective scales. *The American Journal of Psychology*, 66, 199–214.
- Clore, G. L. (1992). Cognitive phenomenology: Feelings and the construction of judgment. In L. L. Martin and A. Tesser (Eds), *The construction of social judgments* (pp. 133–164). Hillsdale, NJ: Erlbaum.

³Because of the absence of a control group in the present studies, it is strictly speaking difficult to tell which of the results we report reflect absolute assimilation and contrast and which reflect baseline effects. However, following classic studies of knowledge accessibility effects in which positive and negative (but not control) priming conditions are compared (e.g. Herr, 1986; Herr *et al.*, 1983; Srull & Wyer, 1979), we prefer to speak of assimilation when judgments are affected towards the valence of activated information and of contrast when judgments are affected away from that valence.

- Helson, H. (1964). *Adaptation-level theory: An experimental and systematic approach to behavior*. New York: Harper & Row.
- Herr, P. M. (1986). Consequences of priming: Judgment and behavior. *Journal of Personality and Social Psychology*, *51*, 1106–1115.
- Herr, P. M., Sherman, S. J., & Fazio, R. H. (1983). On the consequences of priming: Assimilation and contrast effects. *Journal of Experimental Social Psychology*, *19*, 323–340.
- Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds), *Social psychology: Handbook of basic principles* (pp. 133–168). New York: Guilford.
- Manis, M., Biernat, M., & Nelson, T. F. (1991). Comparison and expectancy processes in human judgment. *Journal of Personality and Social Psychology*, *61*, 203–211.
- Martin, L. L. (1986). Set/reset: Use and disuse of concepts in impression formation. *Journal of Personality and Social Psychology*, *51*, 493–504.
- Murphy, S. T., & Zajonc, R. B. (1993). Affect, cognition, and awareness: Affective priming with optimal and suboptimal stimulus exposures. *Journal of Personality and Social Psychology*, *64*, 723–739.
- Philippot, P., Schwarz, N., Carrera, P., Vries, N., & Van Yperen, N. W. (1991). Differential effects of priming at the encoding and judgment stage. *European Journal of Social Psychology*, *21*, 293–302.
- Schwarz, N., & Bless, H. (1992). Constructing reality and its alternatives: An inclusion/exclusion model of assimilation and contrast effects in social judgment. In L. L. Martin & A. Tesser (Eds), *The construction of social judgments* (pp. 217–245). Hillsdale, NJ: Erlbaum.
- Srull, T. K., & Wyer, R. S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*, 1660–1672.
- Stapel, D. A., Koomen, W., & Van der Pligt, J. (1996a). *Categories of category accessibility: The impact of trait concept versus exemplar priming on person judgments*. Manuscript under review.
- Stapel, D. A., Koomen, W., & Van der Pligt, J. (1996b). The referents of trait inferences: The impact of trait concepts versus actor–trait links on subsequent judgments. *Journal of Personality and Social Psychology*, *70*, 437–450.
- Wyer, R. S., & Srull, T. K. (1989). *Memory and social cognition in its social context*. Hillsdale, NJ: Erlbaum.