

A PSYCHOLINGUISTIC PARADIGM OF DUAL INFORMATION PROCESSING IN SOCIAL COGNITION

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A psycholinguistic paradigm is presented which confronts subjects with ambiguous sentences exemplified by "Jan thinks he is taller than Bert is. Bert thinks the same. Who is the taller according to Bert?" This information can be interpreted in two ways, either in a personalised self-other (SO) way (Bert also thinks he himself is taller), or in a depersonalised third person (3P) way (Bert also thinks Jan is taller). The same SO-3P-ambiguity was conceptualised before in a social-perceptual paradigm which required subjects to form impressions of stimulus persons on the basis of interpersonal relations. It was expected that the psycholinguistic paradigm would be suited to deal with the same psychological processes. In an experiment the new paradigm was found to confirm and extend the main conclusions suggested by studies run with the social-perceptual paradigm. Specifically, a bias to process information in the SO-way was confirmed but it could be demonstrated that this bias was confined to the processing of affective stimulus information. In addition, it was confirmed that information that was semantically related to the concepts self and other facilitated the SO-way, and that information related to the subject's own self activated the 3P-way. The conclusions highlight the convergence of the psycholinguistic paradigm with previous social-perceptual research, and point to its resemblance with other dual models in social perception.

Introduction

It has often been observed that the same information can be processed in different ways. Students of perception are acquainted with "ambiguous figures", linguists with "ambiguous sentences" and social psychologists have their "dual models of impression formation" (e.g., Brewer, 1988) showing alternative ways in which people form representations of others. The present study deals with one of those dualities which has been reported independently in the linguistic and the social psychological literature.

In the linguistic literature, the duality in question was exemplified by ambiguous sentences such as: "John nominated himself and so did Harry." (Lyons, 1977, p. 666). The sentence is ambiguous about whom Harry nominated, and can be read either (1) "John nominated himself, John, and Harry nominated

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himself, Harry" or (2) "John nominated John and Harry nominated John". According to Lyons (1977) this ambiguity is due to the possibility to conceive of *himself* in two ways. Following the first interpretation (Harry nominating Harry), the term *himself* is primarily conceived of as a reflexive element *self*. Hence "so did Harry" is conceived as "Harry too nominated himself". Following the second interpretation (Harry nominating John), the term *himself* functions primarily as a third-person pronoun *him* used to designate the person named John. Hence, "so did Harry" is understood "Harry too nominated John".

Independent of this development in linguistics, the same duality was observed in social psychology with respect to the ways subjects could assign similarities and dissimilarities to stimulus persons A and B as a function of information about how A and B were relating to each other and to themselves (Peeters, 1967). For instance, let us consider the following situation: A perceiver is informed that John and Paul dislike each other. In addition, he assumes that like most people, John and Paul like rather than dislike themselves. Thus John and Paul are perceived as two stimulus persons who like themselves but dislike each other. When asked to infer similarities and differences between John and Paul, the perceiver may proceed in at least two ways which correspond to Lyons' interpretations of ambiguous sentences described above. Indeed, consistent with Lyons' first interpretation, focusing on reflexivity versus non-reflexivity of relations, the perceiver may infer that John and Paul must be alike, both having similar (positive) attitudes towards the self and, in addition, similar (negative) attitudes towards the other. However, consistent with Lyons' second interpretation, the perceiver may infer that John and Paul must be different because they have contrasting attitudes towards him named John as well as towards him named Paul. Using a computer metaphor, both modes of thinking were conceived of as two cognitive programs (Peeters, 1983). A program is a set of rules for the processing of input information. In the first program, which in the examples led to expecting Harry to nominate himself and John and Paul to be alike, the meaning of the relational constructs "nominating" and "liking" varied according as they were handled either as relations with the self (reflexive relations) or as relations with an other (non-reflexive relations). Because of this focus on the self-other distinction, this program was referred to as "self-other (SO)-program", and the corresponding mode of thinking as "SO-anchored mode". In the second program, which led to expecting Harry to nominate John and John to be different from Paul, it was considered informative whether a given relation was with "him named John" and not with "him named Paul" irrespective of whether the relation was reflexive or not. Because of the association with third-person pronominal categories, this program and the corresponding mode of thinking, were referred to as third-person (3P)-program and 3P-anchored mode (Peeters, 1983; Peeters & De Wit, 1995).

SO- and 3P-programs were formalised into the Relation-Pattern Model

(RPM). The RPM shows how all $2^4=16$ possible configurations of positive and negative relations between two stimulus persons lead to perceived (dis)similarities between the stimulus persons assigned by either program¹ (Peeters, 1983). The model did not provide any argument to expect that subjects would prefer one program to the other. The programs did not differ in complexity and logical consistency, hence there was no reason to assume that subjects would have to invest more mental effort when using the one program than when using the other. When the model was empirically tested however, subjects were found to show strong biases in their selection of cognitive programs which seemed to depend on the nature and meaning of the information processed. This can be illustrated by the following examples of SO- and 3P-anchored rationales in everyday life. Suppose A and B are students following a course on Dutch language and they have to make some translation exercises at home. Both feel uncomfortable when they have to work all by themselves, but they feel good when working together. Wondering about differences and similarities between A and B, a perceiver may use the SO-program if he perceives the situation as socio-emotional and infers that A and B are alike in that both feel only good in the company of an other and thus share traits such as sociable. However taking a task-oriented perspective, the perceiver may use the 3P-program and infer that A and B are different in that they have different linguistic competences: They may have mastered different parts of Dutch grammar and vocabulary making their competences complementary. In this case, A and B feel uncomfortable working alone because neither A's nor B's specific competence suffices to solve some problems, while, when working together, the problems A cannot solve are solved by B and *vice versa*. It is not the presence of the other *as other* that makes them feel good, but the presence of the specific competence needed to solve the problems, irrespective of whether this competence belongs to the self or to an other. According to the given 3P-anchored mode, (the competences of) A and B have to be different, because otherwise they would not feel better in each other's company than when working alone.

The RPM was used as a basis for experiments designed to investigate the differential activation of the SO- and 3P-programs. In those experiments formal configurations of positive and negative relations of A and B with each other and themselves were implemented with, for instance, affective attitudes (e.g., A and B liking each other's performance but disliking the own performance). The implemented configurations were presented to subjects who were invited to form impressions of A and B. Those impressions provided

¹ The relational pattern of two stimulus persons, A and B, consists of 4 relations, two reflexive (A-A, B-B) and two non-reflexive (A-B, B-A). Each of the 4 relations can be positive or negative (e.g., liking or disliking). Hence, there are 16 possible relational patterns.

the empirical (dis)similarity data which were plotted against the theoretical profiles of the RPM in order to diagnose the subjects' propensities for the SO-and 3P-programs (see Peeters, 1983; 1987; 1991; 1992; Peeters & De Wit, 1995). The experiments produced some suggestive outcomes regarding the selective activation of the SO- and 3P-programs which will be reviewed below. The external validity of these outcomes, however, could be questioned: The experiments were exclusively based on the RPM-paradigm, which often required subjects to interpret complex and unusual descriptions of social situations. Moreover, the RPM was not suited to be implemented with certain types of factual relational information. For instance, one can inform participants that A hates himself but not that A thinks he is taller than himself. Hence *the first aim* of the present study was to construct and test out an alternative paradigm without these restrictions of the RPM. This paradigm would be based on the linguistic phenomenon of the ambiguous sentences reported in the introductory paragraph. A *second aim* of the study was to check whether some main outcomes obtained with the complex social-perceptual RPM-paradigm could be replicated with the more simple linguistic paradigm. If the new and old outcomes converge, this would attest to the reliability of the phenomena addressed in the RPM and contribute to their external validity. Finally, a *third aim* was to use the new paradigm in testing new hypotheses regarding the differential use of the SO-and 3P-programs.

We first discuss some main research outcomes and formulate hypotheses regarding the differential activation of the SO-and 3P-program. Then we present the new linguistic paradigm.

The Differential Activation of the SO- and 3P-Programs

From the first experiment on, subjects appeared strongly biased to use the SO- rather than the 3P-program (Peeters, 1983). The bias was most persistent in personality judgments (Peeters, 1991). In other judgments, such as about tastes and preferences of A and B (Peeters, 1991), the SO-program gave way for the 3P-program only in specific conditions where the experimenter provided additional information in order to orient the subjects to use A and B rather than self and other as cognitive anchors. For instance, in a condition where the information was provided that A and B were musicians who liked each other's music but disliked their own music, subjects were ready to perceive A and B as people with different tastes (specific music liked by the one was disliked by the other) but at the same time, A and B were perceived as people with the same personality (both disliked their own music and liked the other's music).

At this point, the question may arise why there is an SO-anchoring bias. It has been argued that the SO-mode of thinking is a rather personalised mode of thinking, and the 3P-mode a rather depersonalised mode of thinking (Peeters,

1983; 1991). A theoretical analysis of current philosophical concepts regarding the person supported the idea that the SO-bias may reflect a tendency to form personalised quasi-animistic representations of the world rather than impersonal 3P-anchored representations as in natural sciences (Peeters, 1989). Another explanation, not necessarily incompatible with the former, is that the observed bias followed from certain peculiarities of the stimulus information. For instance, the relations used in the various experiments conducted with the RPM-paradigm all had an evaluative-affective character. (e.g., A and B feel positive towards themselves but negative towards each other.) Similar information may be semantically SO-anchored in that, for instance, "liking" has different meanings in "liking the self" and "liking an other". In the former it was found to connote self-confidence, in the latter generosity (Peeters, 1983; 1986). Hence a *first hypothesis* of the present study concerned the question whether evaluatively more neutral stimuli would leave more room for the 3P-mode of thinking. It stated that evaluative-affective stimuli would be processed more in a SO-manner than neutral stimuli would.

If the SO-bias is due to the activation of SO-related concepts within the perceiver, then it should be possible to manipulate this bias by using semantically SO-structured terms in the presentation of the stimulus persons. "Colleague" is a similar term. It can be defined as the other who is a fellow worker of the self. This definition implies the self-other distinction: A colleague is necessarily an other; a person is not assumed to be his own colleague. Hence our *second hypothesis* was that introducing the stimulus persons as colleagues would induce more SO-interpretations than introducing them only by their names.

In contrast with the strong SO-bias and the many failures to induce a 3P-mode of thinking, a rather unanticipated outcome of previous RPM-experiments was that the 3P-mode of thinking could be induced in experiments where participants were instructed to take the role of A, and B was presented as a hypothetical partner with whom they had collaborated in some unspecified task. Relations were formulated in terms of (dis)satisfaction about the self and the other experienced in the collaboration (Peeters, 1992; Peeters & Hendrickx, in press). Specifically, participants were confronted with items like the following: Suppose you are satisfied with the work you did, but dissatisfied with the work done by your partner, and your partner is satisfied with the work he did, but dissatisfied with the work you did. Are you and your partner different from each other or alike? The SO-anchored answer is "alike", you and your partner either being satisfied with the work done by oneself, and dissatisfied with the work done by the other; the 3P-anchored answer is "different", you being satisfied with a piece of work your partner is dissatisfied with. Participants were found to produce the SO- and the 3P-anchored answers to about the same degrees. However, the SO-anchored answer was dominant in conditions where stimulus persons were not presented as "you" and "your

partner" but as two people A and B unrelated to the participant. This outcome seems paradoxical in the light of the higher mentioned association of the SO- and 3P-programs with respectively personalisation and depersonalisation. Should representations which a subject forms about the own self and a partner not be pre-eminently "personalised" and thus be more SO-anchored than representations of two hypothetical outsiders? Or should we revise the interpretation of the 3P-program as a cognitive device that produces a depersonalised discourse of reality? Before one should go on into these questions, the robustness of the observed phenomenon should be ensured by replicating it in a different setting than the RPM-paradigm used in the experiments reported in Peeters (1992) and Peeters and Hendrickx (in press). Thus *our third hypothesis* was that non-self-related information would induce more 3P-interpretations than non-selfrelated information, also in an experimental setting based on the present linguistic paradigm.

The Linguistic Paradigm

As mentioned, this paradigm was based on the ambiguous expressions presented in the initial paragraphs. The linguistic paradigm confronted subjects with three itemtypes:

1. Cognitive items which deal with what stimulus persons "think" rather than "feel" concerning a neutral relational issue. E.g.: "X thinks she's living in the city for a longer time than Y is. Y thinks the same. Who's living in the city for the longer time, according to Y?"
2. Affective items which, as in the RPM-paradigm, deal with evaluative-affective relations with self and other. E.g.: "X feels more positive about Y than about himself. Y feels the same. Whom does Y feel more positive about?"
3. Cognitive-affective items which tell how stimulus persons "think" about evaluative-affective relational issues as those used in the affective items. E.g.: "X thinks he feels more positive about himself than about Y. Y thinks the same. Who feels more positive about himself according to Y?"

It may be evident that in the given examples the SO-program is revealed by high rates of X-answers to items 2 and 3, and of Y-answers to item 1; the 3P-program is revealed by low rates of those SO-answers, which means by Y-answers to items 2 and 3 and X-answers to item 1.

In order to test the three higher mentioned hypotheses using the linguistic paradigm, the hypotheses were reformulated as follows:

1. Affective items are expected to elicit more SO-answers (less 3P-answers) than cognitive items.
2. More SO-answers are expected when X and Y are presented as "colleagues" rather than just two people designated by their names.
3. More SO-answers are expected if X and Y represent two other people (e.g.,

Jan and Bert) than when the subject himself takes the role of one of them (e.g., Jan and you, you and Bert).

Notice that so far no hypotheses were formulated concerning cognitive-affective items. A reasonable expectation may be that the outcomes obtained with cognitive-affective items would be intermediary between those obtained with cognitive and affective items. However, considering a general SO-bias one could expect as well that the cognitive-affective items would align with the affective rather than with the cognitive items.

Method

Participants

299 Dutch-speaking first-year psychology students at the K.U.Leuven (about 18 years old) volunteered to complete a questionnaire in a collective session which was an optional part of their course-fulfilments.

Design and Questionnaire

The questionnaire was introduced as a study on the linguistic understanding of sentences. It varied according to a $3 \times 2 \times 3^2$ -design with 2 between-subject variables, *Person*, and *Designation*, and 1 within-subject variable, *Itemtype*.

Each questionnaire comprised 12 items. These items represented the three item types which constituted the three levels of the within-subject variable factor *Itemtype*: The first level involved five cognitive items each based on a different relational theme: (1) X thinking to live in the city for a longer time than Y, (2) X thinking to be taller than Y, (3) X thinking to have more money than Y, (4) X thinking Y to be more musical, and (5) X thinking Y to have done a better exam. The second level involved five affective items based on the following themes: (6) X feeling more positive about Y than about self, (7) X being more concerned about self than about Y, (8) X minding Y more than self, (9) X looking more after Y's well-being than after the own, and (10) X taking more care of self than of Y. Finally, the third level involved only two cognitive-affective items based on themes (6) and (7) of the affective items: (11) X thinking to feel more positive about Y than about self, and (12) X thinking to be more concerned about self than about Y.

In order to avoid that the same answer (X or Y) would always diagnose the

² Actually, a third between-subject variable was order of presentation to control for possible order effects. Because this variable was not part of the a priori hypotheses nor qualified the effects of the other variables in any - for this article - relevant way, this variable will be disregarded.

same cognitive program (SO or 3P) across items, in the cognitive items 1, 2, and 3, in the affective items 6, 8, and 9, and in the cognitive-affective item 11, the subject of the principal clause was also the subject of the comparison (self-directed formulation, e.g., X thinking X taller than Y) while in the other items the subject of the principal clause was referent of the comparison (other-directed formulation, e.g., X thinking Y more musical than X). Because pilot tests had shown that this variation did not influence the rates of SO- and 3P-answers, it was not handled as an independent variable.

As mentioned yet, questionnaires varied between subjects according to a 3 X 2 design involving two between-subject variables Person and Designation. They are described below, where each type of questionnaire is illustrated with the corresponding variant of the cognitive item "X thinking to be taller than Y".

1. *Person*. In the first condition, labeled *JanBert*, X and Y were implemented as Jan and Bert, two hypothetical others. E.g.: "Jan thinks he is taller than Bert is. Bert thinks the same. Who is the taller according to Bert?" In the second condition, labeled *youBert*, X was implemented as you (the subject himself) and Y as Bert. E.g.: "You think you are taller than Bert is. Bert thinks the same. Who is the taller according to Bert?" In the third condition, labeled *Janyou*, X was implemented as Jan and Y as you (the subject himself). E.g.: "Jan thinks he is taller than you are. You think the same. Who is the taller according to you?". The latter two conditions involved self-other comparisons, one (*Janyou*) with the subject in the role of the object of comparison and an other (*youBert*) with the subject in the role of the standard of comparison. Both conditions were expected to activate the 3P-program.

2. *Designation*. In the first condition, labeled *colleague*, the questionnaire was introduced by the statement that Jan and Bert (you and Bert, Jan and you) were two colleagues and in the comparison clauses of the items, Y was designated by the term "colleague" instead of the name "Bert" (e.g., Jan thinks he is taller than his colleague is. Bert thinks the same. Who is the taller according to Bert?). In the second condition, labeled *name*, stimulus persons were never referred to as "colleagues", only names (Jan, Bert) and pronouns being used (e.g., Jan thinks he is taller than Bert is....)

Results

A SO-anchored response received a score 1, a complementary 3P-anchored answer received a score 0. Thus a mean SO-score higher than .50 signified more SO- than 3P-answers, and a score lower than .50 more 3P- than SO-answers.

In order to check the validity of the a priori distinction between cognitive and affective items, a PCA (Principal Component Analysis) of the scores was performed (see Table I). Two components, explaining 46% of the variance were

withheld and varimax-rotated. As expected, cognitive and affective items expressed different components. In contrast with our expectation, the cognitive-affective items seemed to align with the cognitive rather than with the affective items. Nevertheless, in the subsequent analyses, cognitive-affective items were kept apart from the cognitive items because they were not involved in the hypotheses.

Table 1
Component Loadings of the Items on the Rotated Components

Items	Component 1	Component 2
Cognitive		
1	.73	.13
2	.77	.10
3	.78	.16
4	.66	.28
5	.51	.39
Affective		
6	.14	.65
7	.04	.57
8	.29	.69
9	.30	.69
10	-.06	.42
Cognitive-Affective		
11	.60	-.21
12	.58	.17
VAF ^a	3.32	2.22

^aVAF = Variance Accounted For.

For each subject, three average scores were computed, respectively for the cognitive, affective and cognitive-affective items. These three means are henceforth referred to as cognitive, affective, and cognitive-affective scores. They represented the levels of the within-subjects factor Itemtype.

Because hypotheses concerned only differences between cognitive and affective scores, only the distinction between those two measures was taken into account as levels of the within-subjects factor Itemtype which was

combined with the between-subjects factors Person and Designation in mixed ANOVA-designs with repeated measures for one factor.

Table 2
Mean (Standard Deviation) of the Cognitive Score for Person x Designation

Person	Designation		
	Colleague	Name	Total
YouBert	.72(.29)	.26(.31)	.49(.38)
Janyou	.54(.33)	.32(.34)	.43(.36)
JanBert	.76(.32)	.32(.31)	.54(.38)
Total	.67(.33)	.30(.32)	.48(.37)

In Tables 2 and 3 the means and standard-deviations of the scores for the cognitive items and the affective items for the 6 conditions of Person X Designation are presented.

Table 3
Mean (Standard Deviation) of the Affective Score for Person x Designation

Person	Designation		
	Colleague	Name	Total
YouBert	.88(.19)	.54(.32)	.71(.31)
Janyou	.82(.24)	.70(.26)	.76(.26)
JanBert	.90(.14)	.70(.27)	.80(.24)
Total	.87(.20)	.65(.30)	.76(.27)

According to Hypothesis 1, the affective score is expected to be SO-biased, and higher than the cognitive score, which was expected to be rather neutral. The mean cognitive score amounted to .48, which is close to .50, indicating equal degrees of SO- and 3P-interpretations in the responses to cognitive items. The mean affective score amounted to .76, indicating more SO-interpreted responses. The difference was highly significant, $F(1,287) = 194.72, p < .0001$. Moreover, it was preserved across the six between-subjects conditions, since the only significant interaction, the interaction with Designation, was ordinal. Thus, the SO-bias previously observed in the social-psychological studies was replicated with affective items only. Responses to cognitive items seemed unbiased. Taken together, these outcomes confirm Hypothesis 1.

The main effect of Designation was highly significant, $F(1,287) = 127.63$, $p < .0001$, as predicted by Hypothesis 2. Colleague-items received more SO-responses than name-items: Consistent with the hypothesis, introducing two people as colleagues instead of introducing them by their names turned out to be a strong instigator of the SO-program. The predicted effect was obtained with both the affective and cognitive score with $F(1,287) = 101.31$, $p < .0001$ for the affective score and $F(1,287) = 62.31$, $p < .0001$ for the cognitive score. Nevertheless, a significant interaction between Designation and Itemtype, $F(1,287) = 13.59$, $p < .0003$, revealed that the effect of Designation was more distinct for cognitive than for affective items. This result may be explained by the rather neutral character of the cognitive items with respect to the differential activation of the SO- and the 3P-program. Being neutral, those items may be maximally susceptible to the effect of Designation. Affective items would be less susceptible because, consistent with Hypothesis 1, they are SO-biased. Consequently, presenting stimulus persons as colleagues may not add much to the activation of the SO-program because of a ceiling effect.

Hypothesis 3 predicted a higher SO-score in the JanBert-condition than in the two you-conditions. The main effect of Person was significant indeed, $F(2,287) = 3.16$, $p < .044$. The effect was significant for the affective score, $F(2,287) = 3.16$, $p < .044$, and marginally significant for the cognitive score $F(2,287) = 2.95$, $p < .054$. A posteriori contrast analyses revealed a significant difference between the JanBert and the combined you-conditions, $F(1,287) = 6.26$, $p < .013$, with, as predicted, the higher SO-score in the JanBert condition, being the condition where the subject was not taking the role of one of the stimulus persons. This effect was also significant when F was computed separately for the cognitive and the affective score, $F(1,287) = 3.88$, $p < .047$ and $F(1,287) = 4.35$, $p < .038$. The hypothesis did not predict a difference between the Janyou and youBert conditions. In the perspective of future research, however, it may be worth mentioning that the Janyou-youBert contrast interacted significantly with Itemtype $F(1,287) = 5.49$, $p < .02$: The mean cognitive item-score was higher in the youBert than in the Janyou condition; for the affective itemscore, the direction was reversed. At this moment there isn't any plausible explanation for this asymmetry.

The interaction of Person and Designation was significant also, $F(2,287) = 6.46$, $p < .0018$, and this for each Itemtype, the F -values for the cognitive and affective scores being 4.35, $p < .014$ and 4.83, $p < .0088$. This could be due to a floor and ceiling effect respectively. For cognitive items, replacing the stimulus persons Jan or Bert by the subject itself mainly affected those items where the persons were presented as colleagues. But the SO-score of cognitive name-items was low even for the JanBert-items, so it cannot be excluded that an SO-attenuating effect of the involvement of the subject as a stimulus person (you-conditions) couldn't be reflected in a still lower SO-score. For affective

items, the effect of Person was larger in the conditions where the stimulus persons were introduced by their names than in conditions where they were introduced as colleagues. An explanation may be that the SO-score of affective colleague-items was high even for you-items, making that a possible increase by replacing "you" with "Jan" or "Bert" may be not measurable any more.

Discussion

Hypothesis 1, which predicted that affective items would be more SO-answered than nonaffective (cognitive items), was strongly confirmed. This argues for the theory that the SO-anchoring bias obtained in social-perceptual studies was due to the affective-evaluative nature of the stimulus material involved in those studies. Moreover, the relevant difference between affective and cognitive items was not only very significant, but was replicated within each Person X Designation condition. Apparently, the affective-evaluative nature of information is a strong inductor of the SO-program.

Hypothesis 2 predicted that the SO-program would be activated by presenting stimulus persons as colleagues rather than merely by their names. This hypothesis was strongly confirmed too, and generalised across the three person conditions and the two itemtypes. This argues for the theory that at least one reason for the higher SO-anchoring of some social-perceptual contents may reside in their semantic bonds with the constructs "self" and "other", which would increase the availability of the SO-program at the cost of the 3P-program.

As to Hypothesis 3, according to which less SO-responses were expected in the conditions where the subject takes the role of one of the stimulus persons, the results confirmed the predicted effect. There was less SO-anchoring (and thus more 3P-anchoring) in the JanBert than in the combined you- (Janyou and youBert) conditions. Apparently, changing the stimulus material into self-related material, induces the 3P-program. This outcome confirms previous findings but casts doubt on the presumed association between the 3P-program and the formation of depersonalised representations. Why would perceivers form more depersonalised representations of situations involving themselves than of situations involving only other people? A possible explanation may be that self-related information heightens the self-awareness of the subject. (Buss, 1980; Carver & Scheier, 1981; Duval & Wicklund, 1972). One of the well-documented effects of heightened self-awareness is a more objective, and potentially depersonalised approach of reality. For example, self-aware subjects are found to give more objective self-descriptions than non-selfaware subjects do. Hence, the self-awareness literature provides a possible link between self-relatedness and depersonalisation, and by implication between self-relatedness

and the 3P-mode of thinking. This outcome needs further research³ indeed, but it is in agreement with our assumption of a link between the 3P-program and depersonalisation.

The first aim of this study was to construct and test out a new linguistic paradigm for the study of the cognitive SO- and 3P-programs. It should form a valid alternative of the existing social-perceptual RPM-paradigm. Hence a related aim was to check whether some main findings obtained with the old paradigm could be replicated using the new paradigm. The outcome of this check was positive. Using the linguistic paradigm, the present study replicated two main phenomena obtained in previous studies using the RPM-paradigm: (a) the SO-bias and (b) the tendency to use the 3P-program for processing self-related information. The new paradigm was expected to be suited for handling certain research questions which were hard to deal with using the old paradigm. Thus a third aim was to use the new paradigm in order to test hypotheses which would not only be generalisations from old findings but also actualisations of theoretical stands which were hard to verify in the past. It was predicted and confirmed that the above SO-bias was produced by the nature of the processed information: The SO-program was activated by evaluative-affective information and by a relational inherently self-other structured term (colleague). Apparently the three aims of the study were attained.

The convergence and the complementarity observed between the two paradigms suggests that they tap the same psychological realm. Both paradigms are based on the dual process model of the SO-3P mode of thinking. There are some interesting theoretical parallels with other dual models of information processing. Brewer's Dual Process Model (1988), Fiske's Continuümmodel (Fiske & Neuberg, 1990), and also Forgas' Affect Infusion Model (1995) make a distinction between two modes of processing, one of which is based on a rather global categorisation of the stimuli and one on a more refined analysis focusing on attributes. This distinction shows some resemblance to the SO-respectively 3P-mode of thinking. On the one side, the SO-program also proceeds from a rather general categorisation of stimuli as self and non-self while disregarding the specific attributes of the stimuli. On the other hand, the 3P-program is analytic and attribute-based, stimuli being handled as sets of attributes (Peeters, 1989). Whether these resemblances go further than some similarities-at-first-sight is an intriguing question, which opens interesting perspectives.

³ As part of the doctoral dissertation of the first author, an experiment was conducted to test the relation between objective self-awareness and the 3P-mode of thinking. The results confirmed the main hypothesis that an induced state of self-awareness leads to more 3P-interpretations of self-related items. A research report can be obtained from the first author.

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