The positive-negative asymmetry: on cognitive consistency and positivity bias*

GUIDO PEETERS**

Laboratorium voor Experimentele Sociale Psychologie, University of Leuven

'You've got to accentuate the positive,
Eliminate the negative,
Latch on to the affirmative,
Don't mess with Mr. In-Between.'

(Lyric from American pop song)

Abstract

Positivity bias is approached from three viewpoints: (a) It may be the effect of purely cognitive dispositions. (b) As such, it may function as an hypothesis about reality. The related dynamic factor would be a tendency toward cognitive validity which may lead to an orientation toward the negative as a means to test the positivity-hypothesis. (c) Finally, the subject may seek rewarding behavioral interactions with entities within his life space. In this context cognitive positivity bias may reflect a behavioural approach bias which can be related to the dynamics of 'mere survival' and 'self-actualization'.

'Positivity bias' or 'tendency toward positivity' is a well known phenomenon, not only in the area of 'pop' but also in the field of cognitive consistency research. Its first striking appearance was in an experiment set up by Jordan (1953) in order to test Heider's balance theory (Heider, 1946; 1958). According to Heider a perceiver *P* tends to balance his perceived life space. This life space consists of

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relations between entities. Entities include *P* himself, another person *O*, and an impersonal entity *X*. The relations subdivide into four main categories:

a. positive unit relations (+U) based upon unit forming factors like similarity, proximity, etc.;
b. negative unit relations (–U) indicating a segregation between two entities;
c. positive sentiment relations (+L) or positive attitudes;
d. negative sentiment relations (–L) or negative attitudes.

Entities and relations add together into cognitive systems like dyads (a unit and a sentiment relation between two entities) or triads (three entities linked up in pairs by three relations). These systems tend toward balance. A dyad is balanced when its two relations bear the same sign, e.g., '*P*+*UX*;*P*+*LX*', or '*P*–*UX*;*P*–*LX*'; imbalanced when its two relations bear the opposite sign, e.g., '*P*+*UX*;*P*–*LX*'. Balanced triads consist of either one positive and two negative relations, or three positive relations, e.g., '*P*–*LO*;*P*–*LX*;*O*+*UX*' and '*P*+*LO*;*P*+*LX*;*O*+*UX*'. Imbalanced triads include one negative and two positive relations, e.g. '*P*+*LO*; *P*+*LX*;*O*–*LX*'. Triads with three negative relations are 'ambiguous' according to Heider, 'imbalanced' according to Cartwright and Harary (1956).

Taken into account that there are four kinds of relations and that each triad consists of three relations, 4^3 or 64 different triads can be constructed. Jordan (1953) formulated each of these triads in very simple words. The positive and negative sentiment relations were formulated 'like' and 'dislike'. Positive and negative unit relations were translated respectively into 'has some sort of bond or relationship with' and 'has no sort of bond or relationship with'. *P* was replaced by 'I' while the symbols 'O' and 'X' were maintained for the remaining entities. The triad '*P*+*LO*;*P*–*LX*;*O*+*UX*' was thus translated into 'I like O, I dislike X, O has some sort of bond or relationship with X'. Subjects taking the role of 'I' (this means: *P*) were asked to rate the possible triads in terms of pleasantness. Balanced triads were expected to be pleasant and imbalanced ones unpleasant. These expectations were in general confirmed. There were, however, many exceptions which revealed the positivity bias this article deals with. Triads which included negative relations tended to be rated unpleasant, even if they were balanced. The effect was more typical of sentiment than unit relations; it depended more upon the *PO* relation and less upon the *OX* and *PX* relations.

Rosenberg and Abelson (1960) related this positivity bias to their finding that when subjects were playing the role of a business man, their cognitive organization was rather directed toward maximized expected gain than toward balance. They applied the term 'hedonism' to this phenomenon. Positivity bias was regarded as a manifestation of hedonistic tendencies within the subject.

A positivity bias has also been found in experimental settings where the subjects neither rated pleasantness, nor were asked to take the role of a stimulus person like *P*. Several authors, for example, De Soto and Kuethe (1959) and recently McNeel and Messick (1970) have found that subjects were more inclined to assume a priori to any information a positive rather than a negative interpersonal relation between two fictive stimulus persons.

The question arises if such different instances of a positive-negative asymmetry are interrelated. Is positivity bias just a surface phenomenon which can emanate from very different and mutually unrelated sources, or does it have a single underlying dynamic? The present paper will attempt a critical examination of this problem. We start with an initial assumption that positivity bias is related to cognitive consistency, and then examine it from three viewpoints which have been applied in attempts to explain cognitive consistency itself. Each of the next three sections deals with one of these viewpoints. In the fourth a synthesis is attempted. It should be noted that within the present context, the term 'cognitive consistency' primarily refers to Heider's balance theory. Generalization to other consistency theories, however, is not excluded.

1. Positivity bias an intrasubjective cognitive field process

Cognitive consistency can be conceived, in conformity with *Gestalt* theory, as a fundamental perceptual or cognitive field process. This viewpoint was part of early dissonance theory (Festinger, 1957), and Jordan (1968) attributed a similar explanation to Heider. 'Consistency' here means cognitive 'economy' and 'redundancy' (Heider, 1958, p. 51), or 'simplicity of cognitive structure' (Pepitone, 1966). It does not only mean that the cognitive contents do not contradict each other, but also that they tend to imply each other as much as possible. Therefore the mind tends to simplify and to shape the information it deals with, in such a way as to make it consistent with pre-existing cognitive structures. Such structures habe been referred to as 'meanings as integrating factors' (Heider, 1958, p. 47), 'social schemas' (Kuethe, 1962), 'implicational principles' (Abelson, 1968), 'conceptual good figures' (De Soto and Albrecht, 1968), etc. Heider's balanced dyads and triads would represent such structures. Linguistic structures can probably be conceived of in the same way. Rommetveit (1968, p. 239), for example, pleads for 'an analysis in which semantic, syntactic, and extra-linguistic constituents of messages are explored jointly, and from the perspective of a cognitive social psychology'.

If cognitive social psychology can explain linguistic phenomena, then linguistics

or psycholinguistics may in turn lead to the better understanding of cognitive social psychological phenomena like the positivity bias. Jaspars, Feldbrugge and Bongaerts (1968) relate positivity bias to the psycholinguistic finding that untransformed sentences are in general better remembered than transformed ones (Levelt, 1967). Their proposition implies that the concept of 'positivity' would be something like a primary cognitive structure, while the concept of negativity would consist of exactly the same structure plus some transformational rule. To state it simply, positivity would be just positivity, but negativity would not be just negativity but something like 'the absence of positivity' or 'the opposite of positivity'. Ther ewould exist a cognitive positivity bias because positivity represents a simpler cognitive construct than negativity. The former would moreover underly the latter.

Consistent with this viewpoint is the linguistic peculiarity that there exist many adjectives composed of a favorable rootword which is transformed into an unfavorable sense by adding a negative prefix like 'un', 'in', or 'dis', while the opposite, an unfavorable rootword transformed into a favorable sense by a prefix, is very exceptional. In Anderson's (1968) list of 555 adjectives which were rated on likeableness, we counted 48 'un'-words of which the unmodified root word was also included in the list. No less than 46 times out of 48 the root word was more favorable than the modified form. The only exceptions were 'un-selfish' and 'unconventional'. The same trend held for the prefixes 'in, il, im, and ir' with 16 confirming instances out of 18. The exceptions were 'in-dependent' and 'inoffensive'. The 'dis'-words yielded 8 confirming instances and no exceptions at all.

The merit of Jaspers, Feldbrugge and Bongaerts' position is not that they provide a final explanation of the positive-negative asymmetry, but that they arrive at a closer specification of some structural properties of this asymmetry. The idea of a relatively simple positivity concept underlying a more differentiated negativity concept suggests something like a figure-ground relationship with the negative being the figure, the positive the ground. A similar figure-ground relationship is consistent with Kreitler and Kreitler's (1968) observation that in regard to non recent past life periods both adults and children recall relatively more unpleasant (negative) than pleasant (positive) memories while the evaluative attitude to the past period as a whole tends to be more positive than negative. Moreover, Cohen's (1969) finding that at least in interpersonal and clinical judgment subjects tend to produce more differentiated descriptions of negative traits than of positive ones may reflect the same figure-ground relationship.

However, the problem emerges when one asks whether the figure-ground relation derives from reality or some form of bias. Namely, does the model reflect merely that we are living in a happy world in which there are much more positive things than negative ones, the latter becoming salient as figures? Similar problems will be

discussed in later sections where positivity bias is no longer analysed as a mere intra-individual field process but explicitly as a phenomenon belonging to a subject's relationship with his environment. Another problem concerns the generalization of the above figure-ground model. For instance, the figure-ground relationship seems to be reversed for closed-minded subjects (Rokeach, 1960) who have a negative world view but form more multiplex cognitions about entities which are positively evaluated than those which are negatively evaluated. Also this problem is dealt with in subsequent sections.

Another way to view positivity bias as a cognitive field process is in terms of Zajonc's (1968) work on the attitudinal effect of mere exposure. He finds that repeated mere exposure of a stimulus is shown to increase its attractiveness. Thus, words which are frequently used would tend to develop a more favorable connotation than infrequently used words. This process if carried to its logical extreme might have some troubling effects on negative content words like 'bad', the meaning of which would deteriorate because of repeated exposure. These effects, however, could be neutralized by particular linguistic arrangements. For instance, if there were more negative words than positive ones, then the frequency of use of a particular negative term would decline relatively. In this regard, Zajonc (1968) refers to W. T. Norman's finding that students who were asked to classify a large sample of adjectives into 'good ones' and 'bad ones' classified on the average 2.31 more items in the 'bad' than in the 'good' category. Zajonc also presents ample evidence that positive words are in fact more frequently used than their negative counterparts. Also the preponderance of expressing negativity in terms of 'modified positivity' (e.g., using 'un-', 'in-', and 'dis-') over expressing positivity in terms of 'modified negativity' would, according to Zajonc, contribute to the neutralization of mere exposure effects. In the first place it increases the number of negative words with respect to the positive ones. In addition, Zajonc presumes that such modified forms better resist the mere exposure effect.

'Mere exposure' does not yield yet a final explanation of positivity bias because it is itself already a manifestation of a positivity bias. Why would repeated exposure make a stimulus more positive rather than more negative? An answer could be found in Heider's balance theory. Repeated exposure could be regarded as generating a positive unit relation between the perceiver P and the exposed stimulus X. The increased favorability of the stimulus would follow as a positive sentiment relation completing the dyad in a balanced way. A similar rationale was applied by Cartwright and Harary (1956) to the positivity bias in Jordan's experiment already mentioned. X's mere belonging to P's life space might be sufficient to induce a positive PX unit relation which in its turn would induce a positive sentiment relation.

X's belonging to *P*'s life space, however, is such a general condition that it must be assumed to underly not only '*P* likes *X*' but also '*P* dislikes *X*'. The actual formulation in terms of balance theory then may just express that a condition which is necessary and sufficient for the induction of the positive relation '*P* likes *X*', may also be necessary but not yet sufficient for the induction of the negative relation '*P* dislikes *X*'. This proposition does not add much to the statements already made concerning the primacy and relative simplicity of positivity. It might have more explanatory power if the concept of 'unit relation' would be more specified.

Relevant to this 'unit relation' problem is the motivational analysis of balance theory reported in an earlier article by Peeters (1969a). Starting with Heider's (1958) reference to Spinoza's analysis of emotions as the motivational basis of balance theory, a modified balance paradigm is developed which is more consistent with the existing literature than the original paradigm. The new paradigm implies that, if positivity bias with respect to *X* consists of a positive *PX* sentiment relation induced by a positive *PX* unit relation, then, the more *P* regards *X* as an 'interaction partner', the more positivity bias must be salient. Support for this proposition can be found in a study by Aderman (1969) who performed partial and modified replications of Jordan's experiment described earlier in this paper. He found that positivity bias was largely neutralized when the subjects were instructed to assume that *P* would not have future contact with *O*. However, this analysis exceeds the scope of the present section since the concept of 'interaction between *P* and *X*' belongs more to a behavioral than a pure cognitive-field approach to positivity bias.

To conclude, the pure cognitive-field approach may lead to an increased understanding of the structural properties of the positive-negative asymmetry. The main dynamic factors underlying the phenomenon, however, have to be looked for elsewhere. They seem to be related to the fact that (a) cognition is related to an outside world, and (b) this world is a behavioral world. Both points are dealt with respectively in the second and the third sections.

2. Positivity bias as an hypothesis about reality: The dynamic of cognitive validity

Heider (1958) assumes that the naive perceiver does not only organize his percepts in an economic and redundant way, but also coordinates them to a 'distal object' which is some reality in the perceiver's environment. Percepts, or cognitive representations, tend to be valid, which means that they tend to be adequate representations of the distal object.

Pepitone (1966; 1968) stresses cognitive validity seeking as a dynamic factor underlying cognitive consistency phenomena. According to Pepitone, a perceiver would attribute cognitive validity to some new information if it is reliable, and at the same time consistent with pre-existing cognitive structures.

From this viewpoint, the 'pre-existing cognitive structure' functions as something like an implicit hypothesis about reality. Cognitive positivity bias would reflect the hypothesis that the reality would be positive. There are some investigations which can be conceived as direct explorations of such an implicit hypothesis in the mind of the naive subject. De Soto and Kuethe (1959) and several other authors report evidence, as already mentioned, that subjects attribute higher probabilities to positive interpersonal relations between fictive persons than to negative interpersonal relations. Alimaras (1967) found that subjects tend to describe a liked, real existing person in a completely favorable way. A disliked real existing person, however, was not described in a parallel completely negative way. The latter description was a rather ambivalent mixture of favorable and unfavorable traits.

A subject striving toward cognitive validity may not just form hypotheses about reality but may also be expected to test them. This idea may be implied in Pepitone's stress on 'reliability of the information' as a cue to cognitive validity. However, Pepitone's theory does not go on to develop the concept of 'reliability'.

One can ask, 'How does the subject test his hypotheses about reality?' One strategy, which in the literature is labelled 'successive scanning', consists of looking for as many confirming instances as possible. If the subject holds the hypothesis that his environment, or a particular area within it, will be positive (or consistent), his perceptual or cognitive apparatus may be tuned to the detection of elements which are positive (or consistently organized). This cognitive orientation to the positive is parallel in some respects to the 'reversed figure-ground' model discussed in the preceding section. The cognitive focus upon the positive stressed above, suggests that the positive is regarded as a 'figure' and the negative as belonging to the 'ground'. In the preceding section, however, it was argued that the negative has to be viewed as the 'figure' and the positive as the 'ground'. A reversal of this figure-ground relation was regarded as a deviating instance which was related to closed-mindedness. We will not go on to develop this parallel but just mention that it suggests that 'successive scanning' may also be regarded as something like a 'deviating instance'.

Indeed, although the successive-scanning strategy may seem a quite reasonable way of acting, from a strictly logical point of view, it is not the most appropriate be the application of John Stuart Mill's 'method of difference' which is also applied in science. This method consists of seeking counterevidence for the hypotheses, rejecting them when counterevidence can be found. When cognitive consistency

way to reach high cognitive validity. The best strategy according to logics would and positivity are related to hypotheses about reality, then the actual strategy of 'seeking counterevidence' would lead toward inconsistency seeking and negativity seeking: the negative becomes the figure and the positive the ground. Similar processes are stressed in what McGuire (1966; 1968) labels 'complexity theories'. These theories are often rather troubling for consistency theorists, but in the present context they are rather complementary than opposite to consistency theories. Indeed, consistency theory considers the subject as an hypotheses-forming organism whereas complexity theory views the subject as an hypotheses-testing organism.

The logic underlying the method of difference also underlies attribution theory which, like balance theory, can be considered as a subpart of Heider's (1958) broader cognitive theory. Although Deutsch and Krauss (1965, p. 30) point to the interrelatedness of 'attribution' and 'balance', attribution theory is remarkably absent in the more than 900 pages volume on cognitive consistency by Abelson et al. (1968). The reason may be that just like complexity theories (which were in fact included in the volume) attribution theory would begin where consistency theory ends, the former being complementary to the latter.

Attribution theory is relevant to cognitive validity because it shows how the quite abstract 'method of difference' can be found in the naive subject's cognitive dealing with his subjective environment. This holds especially for Kelley's (1967) development of attribution theory. His analysis of the Skinnerian concept 'tact' in terms of attribution theory, applies equally to the topic of cognitive validity. A particular cognitive representation is felt by *P* to be cognitively valid if conditions are realized leading *P* to relate his representation to the represented entity in the environment (the distal object), rather than to other causal factors like *P*'s creative phantasy. For a further explanation of these conditions, the reader is referred to Kelley's article. Let us just present an illustrative example showing a set of conditions leading a subject *P* to the attribution of cognitive validity to the statement '*X* is good'. *P* would assume that '*X* is good' reflects a real state of affairs in the objective environment, if he also asssumes (a) *X* can be contrasted with less good or bad entities, (b) everybody finds *X* good, and (c) *X* remains good over time and in varying circumstances.

So far, we have discussed two strategies for the attainment of cognitive validity: successive scanning and the method of difference. One can ask which of these strategie is preferred by the naive subject. The method of difference is logically the most appropriate way to cognitive validity. However, would subjects therefore prefer it? Do subjects always act in the most efficient logical way? Moreover, the attainment of cognitive validity is surely not their only motive. If still other dy-

namics underly a cognitive bias, subjects may refuse to use the method of difference and avoid to look for counterevidence of their bias. Very striking in this respect were the results of an investigation by Wason (1960) in the area of problem solving and concept formation.

Wason (1960) told his subjects (psychology undergraduates) that the three numbers '2, 4, 6' conformed to a simple rule and asked them to discover the rule by writing down sets of three numbers together with the reasons for the choice. After each set, the experimenter told the subject whether his numbers conformed to the rule or not. There was no time limit, but the subjects were stimulated to discover the rule by citing the minimum sets of numbers. Only when they felt highly confident of having discovered the rule, they were to communicate it to the experimenter who asked the subject to carry on as before if an incorrect rule was reported. The correct rule was: 'three numbers in increasing order of magnitude'.

The most appropriate way to solve the problem was the eliminative 'method of difference'. The subjects should have formulated intuitive hypotheses such as 'the difference between the successive numbers must be two', and then have attempted to disconfirm them presenting sets of numbers which did not conform to their hypotheses. As soon as the experimenter confirmed that one of these 'disconfirming' sets was consistent with the rule (e.g., 2, 4, 5), the subject could know that his hypothesis was incorrect, and switch over to another one. Instead of this strategy, however, the subjects tended to use 'successive scanning'. They sought direct confirmation of their hypotheses, presenting relatively large numbers of sets which were consistent with it (e.g., '4, 6, 8'; '3, 5, 7'; '18, 20, 22' . . .). In general, these sets were not only consistent with the subject's own hypothesis, but also with the right rule. They were thus confirmed as 'correct' by the experimenter. The subject interpreted this response as a confirmation of his own hypothesis. When finally this hypothesis turned out to be false, some subjects were already fixed to such an extent on it that they even did not change the hypothesis but merely its verbal formulation.

However, were the subjects' hypotheses really that inappropriate? After all they enabled them to emit an infinite number of rewarded responses. It is quite usual that people hold beliefs like prejudices and stereotypes which are incorrect representations of reality, but nevertheless are guiding their behavior in way which yields many rewards. The cognitive structures which thus far have been conceived of as cognitive field processes and hypotheses about reality, may be such pragmatic reward-oriented constructs which guide behavior. Rosenberg and Abelson's (1960) hedonistic interpretation of positivity bias may point towards a similar process. Positivity bias would ultimately be a 'behavioral' bias. This viewpoint is dealt with in the next section.

3. Positivity bias as a behavioral bias

Nuttin's (1955) conception of 'consciousness' is highly relevant for a behavioral interpretation of cognitive structures. 'Consciousness' is regarded as a psychological function which brings the subject in contact with a 'world of meaningful things and situations'. This 'world' is described as a 'crystallization or condensation of behavioral patterns'. The author explains: 'A physical object or a part of the surrounding space becomes a desk, a phone, or an office in so far as a whole network of behavioral dealing, and possibilities of dealing, are involved in it' (Nuttin, 1955, p. 353).

Which dichotomy of 'behavioral patterns' would be 'condensed' in the cognitive 'positive-negative' dichotomy? It must be a quite general dichotomy, 'positivity' and 'negativity' being very general categories, and moreover be asymmetric in a way as to reflect positivity bias. The behavioral 'approach-avoidance' dichotomy may meet this requirement. It is not only very general but also assymmetric as stressed by Miller (1944). The asymmetry consists in the fact that the avoidance gradient is steeper than the approach gradient. When 'positivity' is related to 'approach' and 'negativity' to 'avoidance', 'positivity bias' becomes related to an 'approach bias'. Indeed, the fact that the approach gradient is less steep than the avoidance gradient implies that at a distance where a negative stimulus already has lost its repulsive power, a positive stimulus still may exert considerable attraction, even if at a shorter distance the repulsive power of the negative stimulus exceeded the attractive power of the positive one. In general, such an approach bias could mean that a subject would rather be oriented toward 'dealing with', 'having contact with', 'interacting with', etc., rather than toward 'avoiding to deal with'.

A cognitive positivity bias related to a behavioral approach bias, can be explained as a factor which has survival value. It is a reasonable assumption that among the innumerable interactions which are possible between the subject and the environmental world, there would be many more interactions which are harmful to the subject than interactions which are beneficial. Let us take, for instance, the interaction 'eating'. I can safely eat reasonable portions of bread, butter, marmelade, fish, meat, etc. I should take care, however, never to eat newspaper, glasses, pencils, watches, typewriters, etc. If, like a baby, I always swallowed the nearest small object in my environment, I would not survive for very long. When there are many potential harmful interactions, the beneficial ones being rather exceptional, the most economic and efficient strategy to become well adapted to the environment implies an orientation to the beneficial interactions, rather than away from the harmful interactions. The best way to avoid being poisoned does not consist of keeping in mind a list of poisons which one does not consume. The

list might be too long to be memorized and even then still be incomplete. It would be better to keep in mind a list of edible products and only to sample from them. Even if this list is relatively small and far from complete, it will not lead a subject to eat poison.

The state of affairs presented here is quite consistent with some of the main data in Zajonc's (1968) study already mentioned. The higher variety of negative than of positive words is consistent with the higher variety of harmful than of beneficial potential interactions. The fact that positive words are used with a relatively higher frequency than the negative words, may reflect the fact that the members of the language community are more oriented toward the realization of beneficial interactions than toward the avoidance of harmful interactions.

This interpretation is consistent with Jakobovits' (1968) critical comment on Zajonc's explanation of the frequency-goodness correlation as an effect of mere exposure. Relating Zajonc's findings to analogous findings from Semantic Differential research, he arrives at the conclusion that, although mere exposure might play a minor role, the frequency-goodness correlation probably reflects that 'people structure their world in a fashion consonant with their need system' (Jakobovits, 1968, p. 31). This statement does not necessarily imply that subjects perceive their environment as a good and happy world. It might imply this if the attainment of cognitive validity would be the only dynamic factor underlying cognitive processes. From the behavioral viewpoint stressed in this section, it may just mean that subjects are striving towards a good and happy world.

Also consistent with the higher variety of negative than of positive words, reported by Zajonc, is Cohen's (1969) observation mentioned previously that negative descriptions tend to be more differentiated than positive ones. However, the same observation seems to be quite inconsistent with an orientation toward the positive as implied in the present analysis of positivity bias in behavioral terms. When a person's mind is tuned to the detection of positive entities rather than of negative entities, the person may be expected to hold better differentiated and clearer ideas about the properties of the positive entities than about the negative entities. In terms of the already familiar figure-ground model, the present inconsistency derives from the fact that from the behavioral viewpoint it is suggested to regard the positive element as the figure and the negative as the ground while evidence exists supporting the opposite view regarding the negative as the figure and the positive as the ground.

In order to overcome this inconsistency, one can stress there is no guarantee that when a subject seeks positivity, as is assumed from the behavioral viewpoint, he will never meet negative entities. Of course, if it happens, the subject can deny their negative character, but this autistic reaction does not make for survival.

In order to be able to avoid possible detrimental impacts the subject has to detect in time the negative elements he is confronted with. This more appropriate reaction may lead to an overemphasis of the negative element which then appears as a 'figure' contrasted with the subject's general orientation towards the positive which functions as a basis for a positive 'ground'.

The overemphasis of the negative entity, once the subject is confronted with it, is reflected in the higher steepness of the avoidance gradient than of the approach gradient in Miller's paradigm: when the distance between subject and stimulus decreases, the repulsive power of a negative stimulus increases more rapidly than the attractive power of a positive stimulus. When Alimaras' (1967) subjects attributed a considerable number of traits to disliked persons, they may not only have expressed that they were not acquainted with any entirely bad person, but also that a restricted number of negative traits were already sufficient to dislike a person. An analogous interpretation follows from Jordan's (1953) data: a negative *PO* sentiment relation sufficed to make a balanced triad unpleasant, but a positive *PO* sentiment relation did not make an imbalanced triad pleasant.

The particular orientation to the negative element stressed above can be expected to increase when the subject is not only aspiring to mere survival but also to self-actualization. 'Self-actualization' implies besides 'mere survival' also a tendency not to fix on a restricted number of well established beneficial interactions with the environment, but to expand such interactions as much as possible. This proposition is consistent with Maddi's (1968) comment on Zajonc's mere-exposure theory. Referring to earlier research, Maddi argues that a prolonged repeated exposure of a stimulus may not infinitely increase its attractiveness. At some given moment it must lead to a decrease in attractiveness because of the subject's 'need for novelty'. Instead of being channelled toward a restricted set of well established interactions with the environment, the subject's approach bias becomes a general orientation which induces the subject to regard other entities in general as potential beneficial 'interaction partners'. When moving from the former *restricted approach bias* to the latter *generalized approach bias* the probability of confrontations with negative entities increases. According to the rationale developed in the two preceding paragraphs, an increased cognitive orientation toward negative aspects of the environment would follow.

The main insights implied in the present analysis can be summarized in the following paradigm where positive and negative entities are represented respectively by 'mushrooms' and 'toadstools'. The 'approach' concept is represented by 'collecting and eating' these entities. 'Approach bias' then means: 'A tendency to collect and to eat mushrooms'. The dynamic of mere survival – which is not restricted to a biological level, but includes any tendency to the conservation of any

state of affairs which the subject feels beneficial – is reflected in 'the ordinary lover of mushrooms' who is defined as a person whose main concern is to be able to consume every week his habitual mushroom meal. The dynamic of self-actualization is represented by 'the self-actualizing cook' who is defined as a person whose main concern is to create a new mushroom dish.

The 'ordinary lover' needs an exact knowledge of the distinctive features of only a single edible mushroom. If he approaches only that single variety disregarding any other variety, he will never get poisoned by a toadstool. The 'positive' mushroom which is the object of his *restricted approach bias* may function as a figure against a negative ground of potential toadstools. This figure-ground relationship would be reversed if a non-preferred mushroom (maybe a toadstool!) were suddenly discovered by a horrified 'ordinary lover' between the 'good' mushrooms in his dish. However, for a self-actualizing cook, an exact knowledge of the distinctive features of toadstools rather than of mushroom may be useful. Indeed this knowledge would enable him to use the whole universe of mushrooms for his culinary experiments. This disposition to approach any possible mushroom constitutes a *generalized approach bias:* every fungus which is not identified as a toadstool is regarded as a potential mushroom which can be approached. As the cognitive activity focuses upon the identification of the 'negative' toadstools rather than of the 'positive' mushrooms, the former may get figure properties, the latter ground properties.

It may be a weakness of the theory exemplified in the previous 'mushroom-paradigm' that it largely rests upon *a posteriori* interpretation. However, this weakness may be partially compensated for by the fact that the theory can be related in a fruitful way to different areas within social psychological research.

For instance, the theory gives substance to Fraser's (1971) assumption that the 'risk is a value' phenomenon which would underly risky shift through group discussion, can be regarded as the manifestation of a tendency toward the positive. Risk is effectively implied in the *generalized approach bias* which induces the subject to develop new interactions with his environment. The probability to consume a poisoned toadstool is higher for the 'self-actualizing cook' tasting all kinds of unusual mushrooms than for the cautious 'ordinary lover' who restricts his choice to a single well known variety.

Finally, the theory exemplified in the 'mushroom-paradigm' is fairly consistent with a reinterpretation of data obtained by Abelson and Kanouse (1966) on subjective acceptance of verbal generalization (Peeters, 1969b). Abelson and Kanouse found this effect to be highly dependent upon the verb of an assertion. When subjects were asked to assume that 'Southern tribes' *produce* fashion magazines but do not *produce* sports magazines and news magazines, the subjects were found to

be willing to accept the more general assertion that 'Southern tribes' *produce* magazines. This generalization effect was not found when '*avoid*' was substituted for '*produce*'. However, the verb '*avoid*' was found to induce deductions. Given the premises that all choral music is agreeable, rhytmic, non-instrumental sound, and that 'candidates' *avoid* agreeable and nominstrumental sound without *avoiding* rhytmic sound, subjects were willing to accept that 'candidates' *avoid* choral music. This deductive effect did not occur when '*produce*' was substituted for '*avoid*'.

Abelson and Kanouse's research lead to a clear distinction between four verb categories:

a. verbs with very high deductive but low inductive power (ignore, hate, avoid, fear);
b. verbs with both fairly high deductive and inductive power (fight, harm, destroy);
c. verbs with high inductive but low deductive power (like, trust, love, understand); and
d. verbs with very high inductive but low deductive power (buy, produce, use, need, help, approach, recommend, steal).

In an attempt to explain this result, the authors proposed an interpretation of (a) as negative subjective states, (b) as manifest negative actions, (c) as positive subjective states, and (d) as positive episodic interactions. Induction would be induced by verbs representing directly observable or reportable actions, deduction by verbs representing subjective states like feelings which are not directly observable and reportable.

The reinterpretation of the above findings (Peeters, 1969b) pointed first to weaknesses in this explanation. For instance, to make the data fit their theory, Abelson and Kanouse had to regard 'avoid' as a 'subjective state' when in fact it seems rather to belong semantically to the category 'episodic interactions'. Furthermore it can be argued that the fourfold verb categorization is more consonant with a 'positive-negative' or 'approach-avoidance' dimension than a dimension opposing 'subjective states' against 'manifest actions'. The latter may just represent different approach-avoidance intensities, manifest action verbs expressing a stronger approach or avoidance than subjective state verbs. If one makes this assumption, then the four verb categories express respectively:

a. avoidance;
b. aggression which implies both approach (a strong interaction with an object) and avoidance (the interaction is directed toward the elimination of the object from one's life space);
c. approach;
d. strong approach.

Finally, it can be shown that the data fit the assumptions that when a verb implies 'approach' or 'strong approach' it facilitates induction; when it implies 'avoidance' it facilitates deduction. Verbs implying both 'approach' and 'avoidance' facilitate both inductions and deduction. These assumptions are fairly consistent with the theory exemplified in the 'mushroom-paradigm'. Approach information would be easily generalized because it represents a 'normal' state of affairs. Avoidance information, however, would represent a rather 'non-normal' state of affairs which subjects would only accept as far as evidence is given for it. Therefore, they would not proceed to premature generalization but to deduction the function of which would be to circumscribe the field of 'non-normality'. In terms of the figure-ground model, the deduction can be regarded as a manifestation of figure properties of the avoidance information, the induction as a manifestation of ground properties of the approach information.

It should be mentioned that the relationships established between different areas of social psychological research and the theory exemplified in the 'mushroom-paradigm' involved only a restricted number of implications of the latter theory. A further development and investigation of these relationships may therefore constitute an interesting research topic.

4. **Toward a synthesis**

In the present paper, positivity bias has been approached as being accountable for in terms of cognitive consistency theory. It has been analyzed from three viewpoints each of which revealed different processes. The different aspects of cognitive organization stressed from these three viewpoints can be organized into three dichotomies which can be regarded as bipolar dimensions defining a space in which each of the viewpoints can be localized. A particular viewpoint can

a. either (a1) stress intrasubjective field processes, or (a2) focus upon relationships between the subject and his environment;
b. either (b1) stress the relevance of the object of cognition as an environmental reality which does not depend on the subject, or (b2) focus upon the relevance of factors within the subject;
c. either (c1) stress general behavioral aspects, or (c2) focus upon pure information-processing aspects.

The three viewpoints now can be defined as follows:

First viewpoint: a1 b2 c2
Second viewpoint: a2 b1 c2
Third viewpoint: a2 b2 c1

Indeed, the first viewpoint regarded cognitive organization as an intrasubjective field process (a1), the two other viewpoints rather stressing a relationship between subject and environment (a2) which could have a purely cognitive character (second viewpoint) but also a behavioral character (third viewpoint). The second viewpoint regarded cognitive organization as a process directed to a valid representation of the objective environmental reality (b1) the two other viewpoints rather stressing factors within the subject (b2) which could be purely cognitive dynamics (first viewpoint) but also more general behavioral-motivational dynamics (third viewpoint). Finally, the third viewpoint regarded cognitive organization as a process related to behavior in general (c1), the other viewpoints rather stressing pure information-processing aspects (c2) which were approached, either as intrasubjectively determined processes (firs viewpoint), or as processes related to the environmental reality (second viewpoint).

The processes revealed from the three viewpoints may function as three relatively independent sets which could be induced by particular conditions. For example, a first set, stressing intrasubjective field processes, may become salient when a subject is asked to produce some completely fictive personality descriptions, that is, where there is no objective referent. A second set, stressing cognition of objective reality, may become salient when a subject is asked to assess the personality of another person with whom the subject is not involved in any interpersonal relationship besides a diagnostic one, that is, where there is no behavioral interdependence. A third set, stressing behavioral dependence, may become salient when there is not just a diagnostic relationship between the subject and the stimulus person, but the subject, moreover, anticipates future interaction, that is, where the other can mediate positive and negative rewards. Evidence for the relative independence of these sets with respect to cognitive consistency and positivity bias can be found in Aderman's (1969) study, noticed previously, where he found the anticipation of future interaction increased the positivity bias of a subject.

However, one can also stress unity between the three sets. In the introductory section, the problem was raised if there would be a single dynamic underlying positivity bias phenomena. It might be premature and possibly erroneous to conclude from the present analysis that evidence for such a dynamic exists. Nevertheless, if one wants to attempt to postulate a common process, the preceding analysis would suggest the plausibility of localizing this process or dynamic at the third set. Indeed, one may assume that one fundamental implication of at least a large number of instances of 'positivity bias', is that being a subject implies orientating towards objects in one's life space. This 'orientating' may involve 'approach' or 'avoidance' of particular entities in the life space, and it is in part controlled by two dynamics, 'mere survival' and 'self-actualization'.

The dynamic of 'mere survival' may be defined to relate not only to biological survival, but also to the conservation of any state of affairs which the subject feels beneficial. When this dynamic is dominant, the subject would be oriented towards a restricted number of beneficial interactions. This would imply that the subject would develop a *restricted approach* bias: he would be attuned to a relatively small number of 'positive' or 'rewarding' elements which would obtain figure-properties against a ground of negative elements. A similar fixation on well established beneficial interactions would be reflected in the use of successive scanning as a strategy for the attainment of cognitive validity.

The dynamic of 'self-actualization' implies, besides a 'mere survival' component, a need for novelty. The subject tends to expand his orientation towards the environment. Instead of an approach bias restricted to some well established 'positive' entities, the subject manifests a *generalized approach* bias. This means that any existing entity is assumed to imply some 'positivity' or 'opportunity for beneficial interactions'. Under this orientation, the probability of encountering negative elements or objects increases. In order to be able to avoid the detrimental interactions they imply, the subject has to detect them in time. Therefore, he may be cognitively oriented to negative elements which then get figure properties. This orientation towards negativity as a means to enlarge one's grasp on the environment in order to maximize one's interactions with the positive entities implied in it, parallels the use of the method of difference as a strategy to reach cognitive validity.

The present dichotomy of *restricted* versus *generalized* approach biases is in some ways parallel to the dichotomy between the closed and the open mind (Rokeach, 1960). Regardless of personality, however, each alternative may be related to particular situational features. The more a situation looks safe, the more it may facilitate a *generalized* approach bias. This proposition is consistent with McGuire's (1968) comment that complexity theories have been related predominantly to man 'at his recreations or hobbies, in humorous interchanges, and in aesthetic relaxations' (p. 296).

Besides external situational factors, motivation may also be a critical factor. The more a particular area within the subject's life space becomes involved in the subject's self-actualization, the more the subject might develop a *generalized* approach bias with respect to that area. Thus the cook who is motivated to create new mushroom dishes may develop a *generalized* approach bias with respect to the area 'mushrooms and toadstools'. Finally, the two alternatives may represent successive phases in a subject's dealing with a particular situation. Once the self-actualizing cook has realized his new mushroom dishes, he may develop a *restricted* positivity bias and hence limit his search to known positive cases.

To conclude, it is suggested to combine the dichotomy of *restricted* versus

generalized biases with the trichotomy of cognition as an *intrasubjective field process,* cognition as a *representation of objective reality,* and cognition as *a behavioral plan,* in order to obtain a 2×3 structure which may serve as a framework for a prolonged analysis of cognitive consistency and positivity bias.

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Résumé

Le biais de positivité est approché de trois points de vue différents:
a) Il peut être l'effet de dispositions purement cognitives.
b) En tant que tel il peut faire fonction d'une hypothèse sur la réalité. Le facteur dynamique s'y rapportant serait une tendance vers la validité cognitive qui peut mener à une orientation vers la négative comme moyen servant à examiner l'hypothèse de positivité.
c) Finalement le sujet peut rechercher des interactions de comportement récompensatrices avec des entités de son espace vital. Dans ce contexte les biais de positivité cognitive peuvent refléter un biais d'approche de comportement qui peut être en rapport avec la dynamique de la 'simple survie' et de l' 'autoréalisation'.

Zusammenfassung

Der Hang zur Positivität wird von drei Geschichtspunkten aus betrachtet: (a) er kann Ausdruck rein kognitiver Dispositionen sein. (b) Als solcher kann er zur Hypothese über die Realität werden. Der damit zusammenhängende dynamische Faktor wäre als eine Tendenz zur kognitiven Validierung zu betrachten, die zu einer Orientierung am Negativen als eines Mittels zur Überprüfung der Positivitäts-Hypothese führen kann. (c) Schließlich kann die Versuchsperson lohnende Verhaltensinteraktionen mit anderen Einheiten ihres Lebensraums suchen. Unter diesem Gesichtspunkt könnte die Neigung zur Positivität einen Verhaltenshang widerspiegeln, der mit der Dynamik des 'bloßen Überlebens' und der 'Selbstverwirklichung' in Zusammenhang gebracht werden

Резюме

Склонность к положительности может быть рассмотрена с трех точек зрения
а) Она может быть результатом чисто познавательного характера.
б) Она может быть основана на гипотезе о действительности. Динамическим фактором, связанным с ней будет тенденция к позновательной оценке, которая может привести к тенденции в отрицательном направлении в качестве средства, служащего для рассмотрения гипотезы положительности.
в) Наконец, субъект может искать взаимодействия пове дениякомпенсационного характера со своим жизненным пространством.

В этом контексте склонность к познавательной положительности может быть отражением склонности приближения к поведению, что может находиться в связи с динамикой "простого уцеления" или "самоосуществления".