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Good and Evil as Softwares of the Brain: On Psychological 'Immediates' Underlying the Metaphysical 'Ultimates'. A contribution from Cognitive Social Psychology and Semantic Differential Research

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1. INTRODUCTION

For centuries, thinkers have been dealing with good and evil as concepts related to ultimate reality and meaning. Their reflections have resulted in philosophical and religious systems that are among the most remarkable achievements of the human species. These achievements would not have been possible without the amazing information processing device which is the brain. Hence our knowledge about the way this device works may shed light on concepts regarding ultimate reality that are among its outputs. This is no reductionism. In the same way an expert on, for instance, microscopy may use his knowledge about the working of his instrument in order to arrive at a right interpretation of the images it provides without denying these images any information value about a reality that reaches beyond the mere functioning of the instrument.

As every information processing device, the brain implies *hardware* and *software*. The *hardware* involves a very limited channel capacity for the moment-to-moment processing of information which, however, is compensated by a huge storage capacity (Broadbent, 1965). It follows that perceptual images, as well as cognitive representations in general, do not result from passive photographic-like recordings of sensorial stimuli, but from constructive operations involving the combination of external information from the senses with internal information from the memory. These operations are guided by rules or 'programs' which, together with the information available in the memory and the organization of this information, form the *software* of the brain. This 'software' is not directly accessible for the scientist who wants to make of it the object of his study. It is black box material that has to be (re)constructed on the basis of the systematic observation of relationships between inputs and outputs. It follows that theories regarding the software of the brain have an 'as if' character. For instance, having observed that given the information that 'A likes B' (input) people in general expect that 'B likes A' (output), an investigator may conclude that people process information about interpersonal liking relations in a way as if their brains were programmed to view these relations as reciprocal.

The theoretical 'as if' constructions regarding the softwares of the brain can often be conceived of as a sort of *implicit knowledge* used by the brain to shape the cognitions that constitute a subject's explicit knowledge. Since the dawn of the cognitive sciences many investigators have dealt with one or another aspect of this implicit knowledge. Some of these aspects seem to underlie explicit knowledge about good and evil and even to prefigure certain aspects of the philosopher's dealing with ultimate reality and meaning. In this article I shall (a) review some research demonstrating that there may be general categories of implicit knowledge corresponding to 'good' and 'evil', (b) examine whether the opposition between these categories is qualitative or privative, (c) define their relationship with other categories, and (d) trace their personal or impersonal character.

2. GOOD AND EVIL ON THE LEVEL OF IMPLICIT KNOWLEDGE

In the introduction, we saw that the implicit knowledge system that constitutes the 'software of the brain' serves for making cognitive representations of the world. Another system that serves for making representations of the same world is 'language'. Being processed by the same brains as cognition, the study of language may be a predominant avenue to the uncovering of implicit knowledge. Hence, the research dealt with in this article relies heavily on linguistic data. It represents an approach that is in line with, for instance, analytical philosophy, from which it differs, however, by the use of methodological techniques from experimental psychology. The results of this approach may lack the depth at which a thoroughbred philosopher would aim. Nevertheless they may be interesting in that they are not merely the products of the reflexive activity of gifted thinkers, but reflect the mental activity of ordinary people when dealing with ordinary topics.

Proceeding from language, we may observe that the contrasting terms 'good' and 'evil' do not form an isolated pair. They seem only one from many pairs such as 'love and hate, pleasure and sorrow, beauty and ugliness, etc.' all of which show the same evaluative contrast between a 'good' and a 'bad' term. Hence the question arises whether the *evaluative meaning*-component that seems to unify these terms could be conceived of as part of implicit knowledge, or should be regarded as a category of explicit knowledge that has resulted from the reflexive activity of linguistics and philosophers concerned with the classification of meanings. In order to be conceivable as part of implicit knowledge, the evaluative unity of so-called 'good' and 'bad' terms should appear from the use ordinary people make of these terms. In this respect, the research on the *Semantic Differential* by Charles Osgood and his coworkers may be highly relevant. Hence we shall enter into it in some greater detail.

Osgood's initial aim was to realize a rigorously empirical approach to the study of *connotative meaning*. His methodology and the resulting semantic model, which was called 'Semantic Differential' can be found in the book 'The Measurement of Meaning' (Osgood et al., 1957). A good deal of subsequent research and application was compiled by Snider and Osgood (1969). The impressive cross-cultural extensions of the study were reported about in Jakobovits (1966) and Osgood, May and Miron (1975). It turned out to be very questionable whether the semantic map provided by the Semantic

Differential really concerned the traditional concept of 'connotation'. Even Osgood himself soon dropped the term 'connotative meaning' in favour of *affective meaning*. However, irrespective of which label is applied, there can be no doubt that the Semantic Differential offers a look at some outstanding aspects of implicit knowledge.

In the tradition of logics, *connotation* refers to the attributes that are essential to the meaning of a term. 'Attributes' are typically encoded in 'adjectives'. Hence Osgood focused on meanings of adjectives. Having observed that adjectives can be readily classified into opposites, he decided not to proceed from single adjectives but from pairs of adjectival opposites such as: 'good-bad, strong-weak, quick-slow, etc.'. Each pair was conceived of as a semantic continuum – e.g., from extremely good to extremely bad – that could be represented by a spatial dimension. The meanings of all possible pairs of opposite adjectives implied by a particular language then could be represented by a multidimensional space. If the meaning of each separate pair of adjectives would be unrelated to the meanings of other pairs, then the *semantic space* would contain as many dimensions as adjective-pairs were given. However, the number of dimensions could be reduced if meanings of different adjective-pairs would overlap. For instance, two synonymous pairs would be represented by one single *semantic dimension*. A partial overlap of meaning may be rendered by one semantic dimension that is shared by the overlapping adjectives, while the non-overlapping meaning-parts would be rendered by separate dimensions which in turn, however, might be shared with still other adjectives. In this way the meanings underlying a set of adjectives may be represented by a set of semantic dimensions that can be thought of as part of implicit knowledge.

In order to map those dimensions, Osgood first selected a sample of current adjectives that could be classified into opposites and represented a great variety of meanings with apparently minimal overlap. They included manifest evaluative opposites such as 'good-bad' but also seemingly neutral opposites such as 'long-short' and 'young-old'. Each pair of opposites was represented by a scale ranging from 1 to 7. For instance, on a scale 'good-bad', 1 may represent the 'good' extreme, 7 the 'bad' extreme, while 4 would correspond to the neutral middle of the 'good-bad' continuum. Because of this scaling the term *scale* is currently used in the 'Semantic Differential' literature in order to refer to the adjectal opposites.

In addition to the set of 'scales' (adjectives), Osgood sampled a set of current substantives (mother, house, tree, etc.) which in the 'Semantic Differential' literature are usually referred to as *concepts*. Then subjects (students, high school pupils) were asked to rate every 'concept' against every 'scale'. The obtained ratings were analysed following mathematical procedures – factor analysis of correlations between scales – that yielded a set of abstract 'factors' that accounted for the variability between the scales. These factors could be conceived of as the semantic dimensions that were earlier described. One remarkable outcome was that only one single dimension accounted for about half of the variability observed between scales. It was characterized by scales such as 'nice-awful, sweet-sour, heavenly-hellish, good-bad, mild-harsh, happy-sad, etc.' and Osgood called it the *evaluative dimension*. Subsequent repititions of the original study in a great variety of language-culture communities confirmed the initial findings. Every replication yielded an outstanding evaluative dimension contrasting 'good attributes'

against 'bad attributes'. For instance, in Greece, an evaluative dimension was obtained characterized by the Greek equivalents of 'worthy-unworthy, honest-dishonest, polite-impolite, "filotimos-afilotimos" (untranslatable), good-bad, etc.'. Wherever the study was repeated, the local equivalent of 'good-bad' was always among the six scales that were most representative for the evaluative dimension (Jakobovits, 1966, pp. 21–23).

The work by Osgood and his coworkers demonstrates that the evaluative meaning that seems to unify a great number of 'good' and 'bad' terms does not only exist as a product of reflexive thought, but may already operate on the prereflexive level of implicit knowledge. If we are in search for categories of implicit knowledge underlying ultimate concepts of 'good' and 'evil', then Osgood's evaluative dimension is surely a serious candidate. Hence, in subsequent sections we shall rely further on data from Semantic Differential research.

3. THE RELATIONSHIP BETWEEN GOOD AND EVIL: QUALITATIVE OR PRIVATIVE OPPOSITION?

One main characteristic of the reflexive categories of 'good' and 'evil' that appears in the corresponding prereflexive categories represented by Osgood's 'evaluative dimension' is that they seem related to each other as opposites, a 'positive' or 'good' category being contrasted with a 'negative' or 'bad' one. The question arises whether this opposition involves a qualitative distinction, as may be implied by a Manichean dualism, or whether it is merely privative. Many philosophers seem to adhere to the latter 'privative' view. For instance, under the motto 'Ens et bonum convertuntur' (being and good are interchangeable) ontological substance has been accorded to the 'good' only, the 'bad' being defined by 'absence of the good'. It is noteworthy that the current privative view stresses the primacy of the 'good'. The reverse view, suggesting the primacy of the 'bad', seems rather exceptional but should be taken into account as at least a theoretical possibility. Hence we may distinguish between three possible views regarding the relationship between good and evil: (a) a *Manichean view*, which deals with 'good' and 'evil' as qualitatively distinct categories with equal ontological substance, (b) an *optimistic view*, which stresses the primacy of the 'good' reducing the 'bad' to the 'absence of the good' and (c) a *pessimistic view*, which stresses the primacy of the 'bad' the 'good' being reduced to the 'absence of the bad'.

In the present section we shall not examine the occurrence of these views in the explicit thoughts of philosophers dealing with ultimate reality and meaning but in the implicit knowledge underlying the activity of the human information processing system in general. As in the previous section, we may proceed from language again and observe, first of all, the prevalence of evaluatively opposite terms such as 'good' versus 'bad', 'happy' versus 'unhappy', etc. This dualism of linguistic labelling may remind us of the Manichean dualism. Moreover, the opposition between 'good' and 'bad' terms may be argued to reflect a semantic opposition on the level of implicit knowledge in that it coincides with the evaluative dimension of Osgood's Semantic Differential (cf. section 2). Although Green and Goldfried (1965) have attempted to reduce the bipolarity of Osgood's semantic dimension to a procedural artefact, subsequent studies by Bentler

(1969) and Russell (1979) have demonstrated that this bipolarity really extends to the level of implicit knowledge.

Altogether, the formal organization of language seems to imply an evaluative bipolarity which, at a first glance, may look consistent with the Manichean view. However, before drawing definite conclusions, we should not only consider the structure of language as such, but also the use subjects make of this structure. Therefore we shall proceed once more from Osgood's research on the Semantic Differential.

One unanticipated outcome of this research concerned the samples of concepts (or substantives – cf. section 2). In the various language-culture communities, the great majority of the sampled concepts were rated nearer to the positive than to the negative pole of the evaluative dimension. From those findings, and analogous ones by other investigators, Boucher and Osgood (1969) derived the famous *'Pollyanna* Hypothesis' stating that there would be a universal tendency to use evaluatively positive words more frequently than evaluatively negative ones. Meanwhile Matlin and Stang (1978) have reviewed an impressive amount of research showing that the Pollyanna phenomenon is not limited to the specific linguistic context of Semantic Differential research, but is the manifestation of a more general and encompassing *positivity bias* underlying human information processing. The application of the label 'Pollyanna' to this bias suggests that it may be the manifestation of a positive look on the world, the little girl 'Pollyanna' being the personification of optimism in a children's book by Eleanor Porter.

However, before associating the Pollyanna phenomenon with an optimistic world view, we should pay attention to another consistent research outcome which seems opposite to the Pollyanna phenomenon suggesting rather a pessimistic view. Numerous empirical studies, reviewed and discussed by Kanouse and Hanson (1971), show that in forming evaluative overall impressions subjects accord more weight to evaluatively negative than to evaluatively positive information. This phenomenon, called the *negativity effect* does not fit Porter's Pollyanna but rather Hans Christian Andersen's princess who spent a terrible night in a princely bed because of a miniscule pea under her opulent mattress. Nevertheless, Peeters (1971), and Kanouse and Hanson (1971) as well, have demonstrated that Pollyanna and the princess with the pea get along quite well. The positivity bias associated with the former and the negativity effect associated with the latter derive both from the same coherent set of psychological dispositions referred to as the *positive-negative asymmetry* (Peeters, 1971). In the subsequent paragraphs we shall go somewhat further into these dispositions and trace their implications concerning 'good' and 'evil' as categories of implicit knowledge.

Basically, the positive-negative asymmetry can be reduced to a psychological disposition to deal with the environmental world as if proceeding from the hypothesis that this dealing will lead to 'good' or 'positive' outcomes. This disposition involves a cognitive orientation to the positive which may produce the Pollyanna phenomenon. Indeed, because of this orientation 'positive' states would be handled by the information processing system as 'normal states', the 'negative' or 'bad' states being handled as 'states that deviate from the norm'. Hence verbal descriptions of negative states may bulge with positive terms evoking positive states that, however, are turned into bad by one single negative term denying the evoked positive states. For instance, the terms

'distinguished, professor, philosophy, best, friend' may all elicit positive associations, but combined together with one single negative term such as 'murders' they may form an atrocious message such as: 'Distinguished professor of philosophy murders his best friend'. It may be evident that this anchoring of the 'negative' on the 'positive' should result in positive terms being used more frequently than negative terms. Zajonc (1968) indeed observed that good or positive words are used much more frequently than their bad or negative counterparts. This explains the original observation that led Osgood and his coworkers to the Pollyanna hypothesis: the 'concepts' rated by the subjects were current substantives which could be expected to be frequently used, and thus predominantly positive, terms.

The orientation to the positive, implied by the positive-negative asymmetry, even transpires into the morphology of positive and negative words. Many negative words are what linguists call, *marked terms* consisting of a positive root (e.g.: 'happy') which, however, is transformed into bad by a negative affix (e.g.: 'un-happy'). The opposite arrangement – a 'bad' root transformed into 'good' (e.g.: 'un-selfish') – is rather exceptional. This asymmetry has been found not to be limited to the morphology of words but to extend to the underlying semantic level. For instance, in an experiment (Peeters, 1974) subjects were asked to rate semantic similarities between evaluatively loaded terms and the negations of their opposite (e.g.: 'tolerant/not intolerant'). The results showed that subjects assigned more similarity to pairs consisting of a bad term and the negation of the opposite good term (e.g.: 'intolerant/not tolerant') than to the reverse pairs consisting of a good term and the negation of the opposite bad term (e.g.: 'tolerant/not intolerant'). Evidence that this result was not an artefact due to the combination of 'not' with a negative particle like 'un-' but really concerned the meanings of the words, was provided in that the same asymmetry was observed for evaluative opposites involving no negative particles. For instance, 'stern' was judged more similar to 'not friendly' then 'friendly' to 'not stern'. Apparently, the human brain associates 'evil' with 'absence of good' rather than it associates 'good' with 'the absence of evil' and hence seems to subscribe to the 'optimistic view' rather than the 'Manichean view'. The seemingly Manichean dualism displayed by the high amount of evaluatively opposite terms may follow from the linguistic facility to transform the meaning of a term into its opposite by adding simply an affix. However, inconsistent with the Manichean view, this facility is used predominantly in one direction 'good' being transformed into 'bad' but 'bad' not into 'good'.

An important implication of the positive-negative asymmetry is that the Pollyanna phenomenon, and the corresponding 'optimistic view' accorded to the human information processing device, do not reflect a naive wish-fulfilling perception of the world. The 'positivity bias' in human information processing is to be regarded as a matter of 'hope' rather than of 'belief'. Indeed, the positive expectations to which they dispose us function only like preliminary hypotheses of which the subject knows that they may be invalid and thus is ready to reject them with the least counterevidence. Apparently, the brain seems not only programmed following the adage 'No news is good new' but also the following: 'One scabby sheep spoils the whole flock'. Hence, as was pointed out by Peeters (1971) as well as by Kanouse and Hanson (1971), it is exactly the

positivity bias that produces the negativity effect in that it makes the negative stand out as a 'figure' against a 'ground' of positive expectations.

In Peeters (1971) the positive-negative asymmetry was further related to an adaptive strategy enabling an individual to exploit maximally the scarce positive opportunities provided by an environment with a greater potential for bad outcomes than for good outcomes. The negativity effect is functional to the avoidance of bad outcomes while the positivity bias means that this avoidance interferes minimally with the realization of the limited potential of good outcomes. In this way the single 'mushroom' immersed in a field of 'toadstools' can be detected and consumed. In the same way man has succeeded in exploiting the benefits of fire without being burned and may succeed in mastering nuclear power without being destroyed, at least if 'the princess with the pea' will continue to warn 'Pollyanna' in time for the abysses along which her pathways lead.

It may be significant that a characteristic of implicit knowledge which seems rooted in an adaptive strategy to cope with a predominantly unhospitable environment, is manifest in widespread religious and philosophical world views. Could this mean that the apparent optimism of these views, stressing the primacy of the 'good', reflects the coping with an ultimate reality that appears primarily as an unhospitable universe, a dreary nothing with some sparkles of being which emerge as islands of sense in an ocean of non-sense, an oasis of order in a desert of entropy?

4. THE RELATIONSHIP BETWEEN EVALUATIVE AND NONEVALUATIVE PROPERTIES: OBJECTIVE CO-ORDINATION OR SUBJECTIVE SUBORDINATION?

Phenomenologically, 'good' and 'evil' do not appear as object-like entities such as houses, trees, people, etc., henceforth called simply 'objects'. Instead, they appear as properties of objects that are linguistically represented by adjectives such as 'good' and 'bad' in the same way as nonevaluative properties are represented by adjectives such as 'long, yellow, liquid, etc.' In general, properties rendered by adjectives are experienced as 'objective' in that they are associated with the object as the adjectives are with the substantive. Even if objects are assumed to be mental constructions, certain properties can be qualified as '*objective*' in that they are perceived as belonging primarily to the 'object' while other properties may be qualified as '*subjective*' in that they are perceived as belonging to a 'subjective view' on the object. For instance, objective properties of a given fountain-pen may be a.o.: 'black, cylindrical, old, etc.', while a subjective property may be that it reminds me of my tenth birthday. Hence the question arises whether evaluative properties such as 'good' and 'bad' are handled by the brain as objective properties. An affirmative answer would imply that the implicit knowledge system is in line with philosophers like Scheler who stress an objective value concept.

In search for an answer we may turn once more to Osgood's Semantic Differential. As was explained above, Osgood obtained an outstanding evaluative dimension that was assumed to represent good and evil on the level of implicit knowledge. However, in addition he obtained two apparently nonevaluative dimensions standing out quite saliently throughout the various language-culture communities. The most salient

dimension was characterized by adjectival opposites such as 'big-little, strong-weak, long-short, etc.' and was labelled: *potency*. The weaker dimension was characterized by 'fast-slow, alive-dead, young-old, etc.' and was labelled: *activity*. It may be evident that the Semantic Differential assigns to the evaluative dimension the status of 'one semantic co-ordinate among others'. Hence, on the basis of the Semantic Differential the relationship between evaluative and nonevaluative properties may be characterized as *co-ordination* and this 'co-ordination' may be qualified as *objective* in that it implies that evaluative properties are of the same order as nonevaluative 'objective' properties. Thus the brain would handle 'good' and 'bad' in the same way as 'long' and 'short' or 'young' and 'old'.

It could be objected that the procedure followed by Osgood could not do other than produce a set of co-ordinately related semantic dimensions. Hence the co-ordinate relationship between evaluative and nonevaluative dimensions may be a procedural artefact. This objection is not valid, however, in that Osgood's procedure does not necessitate that exactly one of the obtained co-ordinates should be evaluative, the others being nonevaluative. If the evaluative dimension would not have the status of 'one co-ordinate among other co-ordinates' it would not have shown up as a separate dimension of the Semantic Differential. However, one could question whether evaluative meaning really coincides with only one single dimension of the Semantic Differential. The idea that not only the evaluative but also the potency and activity dimensions contrast a 'good' pole against a 'bad' pole has intuitive appeal. Indeed, 'big, strong, fast and alive' seem preferable to 'little, weak, slow and dead'. Moreover, this intuitive view seems to be confirmed by the data from another cross-cultural research project directed by Osgood (Osgood & Richards, 1973; Osgood, 1979). These data were obtained by asking subjects to insert either 'and' or 'but' in the conjunction of pairs of adjectives such as 'good ... strong'. The insertion of 'and' was interpreted to indicate a psychological association, that of 'but' a psychological dissociation, between the properties represented by the adjectives. The results showed one single all-encompassing dimension with high evaluative (good), high potenty (strong) and high activity (fast) being associated with each other at one pole and dissociated from low evaluation (bad), low potency (weak) and low activity (slow) at the other pole.

According to Osgood (1979, p. 2) the present polarity would not be simply evaluative but reflect a general opposition between 'the positive' and 'the negative' that would be a basic characteristic of human cognitive organization. This comment can make sense if the term 'evaluative' is assumed to refer only to a *specific* evaluative dimension which was the evaluative dimension of the Semantic Differential, being understood that this dimension should be distinguished from a dimension of a different order than the Semantic Differential dimensions that deserve the epithet 'evaluative' as well. In that the latter *encompassing* dimension associates 'good' not only with the positive qualities belonging to the specific evaluative dimension of the Semantic Differential, but also to the power and dynamism of the 'potency' and 'activity' dimensions, it may represent the most appropriate prefiguration on the level of implicit knowledge of the philosophers' association of 'good' with 'being' already dealt with in section 3. Hence the question arises how the 'encompassing' evaluative dimension relates to the 'specific'

one of the Semantic Differential and which are its implications for the relationship between evaluative and nonevaluative properties on the level of implicit knowledge.

Before going on into these questions we should first consider some more findings from Semantic Differential research. One may remember from section 2 that the dimensions of the Semantic Differential were derived from descriptions subjects made of a wide sample of concepts (substantives, objects) using a wide sample of scales (adjectives, properties). What would happen, however, if the samples of concepts and scales were narrowed, the limits being one single concept or one single scale? First of all, narrowing the sample of scales may not make much sense. Indeed, the dimensions being abstracted from the covariations between the scales, one single scale such as 'good-bad' would necessarily result in one single dimension coinciding with that scale. However, there is no problem with narrowing the sample of concepts and hence Osgood (1957, p. 176 ff.) repeated the Semantic Differential analysis on subjective ratings of single concepts against many scales. He found that most concepts yielded main dimensions that were identifiable as the 'evaluative' and 'potency' dimensions of the original Semantic Differential. The 'activity' dimension was identifiable in only a few concepts while in other concepts the properties belonging to this dimension were distributed over other dimensions. Altogether, this pattern of variability across concepts resembled the pattern obtained across cultures where also 'evaluative' and 'potency' stood out most saliently, 'activity' being less pronounced and less consistent.

So far, nothing special was on. The Semantic Differential seemed generalizable across concepts in about the same way it was across cultures. However, a closer examination of the data revealed a difference relative to the concepts that could not have been observed relative to the cultures in that the data were gathered in the native languages of the subjects. This difference concerned the meanings of the adjectives (scales). Although the main semantic dimensions underlying the meanings of the adjectives seemed generalizable across concepts, the meanings of individual adjectives were not so but varied from concept to concept. For instance, the adjectives 'graceful' and 'soft' endorsed highly overlapping meanings when applied to the concept 'family life' but contrasting meanings when applied to the concept 'knife'. This unstability affected 'evaluative meaning' more than 'potency'. Osgood mentions that especially 'pure' evaluative scales like 'good-bad, positive-negative, optimistic-pessimistic' proved to be the most unstable.

In Peeters (1979) the present evaluative unstability was shown to be most parsimoniously accounted for by a *relativistic evaluative-meaning concept* which implied that on the level of implicit knowledge evaluative properties are not dealt with as 'objective properties' but as 'subjective properties subordinate to objective properties' (*subjective subordination*). Let us explain this by the example of 'a book'. It has objective properties such as its color, shape, and, last but not least, the conceptual content of its text. In that they belong to the object, these properties are available to every subject who gets the book in his hands. However, this is not the case with the evaluative properties of the book. Some subjects may find the book 'good' others may find it 'bad' while some who found it good five years ago now have changed their minds and find it bad. The 'goodness' of the book is assigned to it by the subjects on the basis of its

'objective' properties and the agreement of these properties with 'subjective' evaluative standards about books. The *evaluative standard* is a normative set of objective properties an object should have in order to be evaluated as 'good' by a particular subject. As such it belongs to the subject's implicit knowledge where it may be conceived of as the ideal representation of an optimal object or an optimal state of affairs. There may be a good deal of agreement between the evaluative standards held by various subjects about the same object. Most people may prefer stories with a happy end to stories with an unhappy or open end, and hold evaluative standards about lemon juice including the properties yellow and sour. However, less agreement may exist between evaluative standards for different objects. For instance, 'yellow' and 'sour', which are excellent in lemon juice, surely do not generalize to the evaluative standards for coffee. This may explain the unstability of evaluative terms observed by Osgood. The relatively high stability of 'potency' then may indicate that this dimension relates to the objective properties of objects. It would be a main dimension on which objects are compared with their evaluative standards in order to derive their goodness. For instance, the high potency in the meaning of 'long' may remain constant over 'long success' and 'long disease'. In the same way, the low potency of 'short' may remain constant over 'short success' and 'short disease'. However, when asked to rate the concepts 'success' and 'disease' on a good-bad scale, subjects may align 'good' with 'long' for 'success' but with 'short' for 'disease' in that their evaluative standards about successes imply high potency (long, big, etc.) while those about diseases low potency (short, little, etc.).

It may be evident from the latter example that 'potency' and other 'objective properties' are not appropriately labelled by the term 'nonevaluative'. Indeed, an objective property can endorse an evaluative meaning which, however, may vary over contexts. An adjective denoting an objective property (long) endorses a positive evaluative meaning if this property belongs to the evaluative standard the subject applies to the adjective's referent (success); however, it endorses a negative evaluative meaning if it denotes an objective property that contradicts the evaluative standard applied to the referent (disease). Hence, instead of the term *nonevaluative* one could use one from several alternatives offered by the literature on the Semantic Differential and on social cognition, such as: *objective*, *denotative*, or, *descriptive*. Obviously, each of these terms can be a source of confusion. In the present context, we may prefer 'objective' in that in the beginning of this section 'objective' was defined in a very specific way which may avoid confusion.

The fact that, in addition to genuine evaluative terms, also 'objective' terms may endorse evaluative meanings, implies two types of evaluative meaning: a *direct* and an *indirect* one (Peeters, 1967, 1979, 1981). The evaluative meaning of terms such as 'good' and 'bad' – Osgood's 'pure' evaluative scales – is 'direct' in that it is not mediated by the comparison of the 'objective' information conveyed by the terms about their referent with the evaluative standards subjects apply to the referents. This means that the statement 'X is good' conveys that X is in agreement with an evaluative standard irrespective of which object is represented by X and which evaluative standard is applied to it. The evaluative meaning of a direct evaluative term thus seems very stable. Hence it may be a surprise that Osgood found that the 'pure' evaluative scales proved to be the

most unstable across concepts (see supra). However his finding did not concern the direct evaluative meaning of the scales – good remained always 'good' and bad remained 'bad' – but the 'objective' properties that became associated with them in various contexts, 'good' being associated with 'long' in the context of 'success' but with 'short' in the context of 'disease'. Thus the instability of a 'direct' or 'pure' evaluative term is limited to the 'objective' (nonevaluative) meaning that it conveys indirectly by mediation of its referent and a specific evaluative standard regarding this referent. If there is instability of evaluative meaning also, then it does not concern the direct evaluative meaning of the pure evaluative term but the indirect evaluative meaning endorsed by the objective term as a function of the agreement between the term's referent and a specific evaluative standard. Hence, in the case of 'good' combined one time with 'long', another time with 'short', it is not the direct evaluative meaning of 'good' that is unstable but the indirect evaluative meanings of 'long' and 'short'.

Being equipped with the concepts of direct and indirect evaluative meaning, we can now attack two main questions left regarding the implications of the Semantic Differential for implicit knowledge: (a) What does the specific evaluative dimension of the original Semantic Differential signify? (b) What does the encompassing evaluative opposition between 'the positive' and 'the negative' (Osgood, 1979) signify?

As to the first question, we may consider that the method applied by Osgood (cf. section 2) must yield one evaluative dimension among other apparently nonevaluative dimensions if some of the adjectives (scales) remain constantly positive or negative across the concepts (substantives) to which they are applied. Adjectives with direct evaluative meanings meet this requirement by definition. Hence we find equivalents of the English terms 'good' and 'bad' in the evaluative dimensions of every culture where the Semantic Differential study was run. However, the evaluative dimensions included also many adjectives denoting primarily objective properties which, in principle, could only endorse an indirect evaluative meaning. A typical example was the scale 'sweet-sour' with, of course, 'sweet' as positive and 'sour' as negative term. This alignment with 'good-bad' may be observed for 'objective properties' that tend to endorse the same indirect evaluative meaning over a great variety of contexts. For instance, there may be many more objects that subjects like to be sweet than objects that subjects like to be sour – apparently 'lemon' and 'vinegar' belong to a minority. A plausible answer to our question about what the evaluative dimension of the Semantic Differential signifies, then may be that this dimension is a conglomerate of two conceptually distinct semantic categories: (a) a direct evaluative positive-negative category represented by direct evaluative terms such as good-bad, positive-negative, favorable-unfavorable, etc. and (b) an indirect evaluative category including a variety of objective properties such as 'sweet-sour' and 'honest-dishonest', which have in common that the indirect evaluative meanings they endorse are constant over a great variety of contexts.

This answer to the first question, however, complicates that to the second question. Indeed, if 'long' is associated with 'good' and 'short' with 'bad', then why do they not align with 'good-bad', as do 'sweet-sour' and 'honest-dishonest' in the specific evaluative dimension, but stand out together with 'big-little, strong-weak, etc.' in a

separate so-called 'potency' dimension? Earlier in this paper it was explained that 'long-short' does not belong to the same dimension as 'good-bad' in that there are about as many contexts where 'long' belongs to 'good' (and 'short' to 'bad') as there are where 'long' belongs to 'bad' (and 'short' to 'good'). However, then the problem arises why the studies by Osgood and Richards (1973) and Osgood (1979) linked 'long' on 'good' and 'short' on 'bad'? A possible solution may be derived from the 'positive-negative asymmetry concept' explained in section 3. One may remember that this concept implies that in the absence of relevant information about an object allowing to decide about whether it is 'good' or 'bad', subjects proceed from the hypothesis that the object may be 'good'. Hence, when information is lacking about the context to which an adjective belongs, then subjects may deal with this adjective as if it would belong to a positive context (Peeters, 1976). Thus the meaning assigned to 'long' when presented in isolation would approach the meaning assigned to it in 'long success' rather than that assigned in 'long disease'. This mechanism may have played a role in the study of Osgood and Richards. Their procedure required subjects to complete sentences like 'X is strong ... honest', by filling in either 'and' or 'but'. In that X is a neutral label, the positive-negative asymmetry would make subjects to deal with 'strong' and 'honest' as if X repesented something positive such as 'my friend' rather than something negative such as 'my enemy'. In a positive context like 'friend' the objective 'high potency' of 'strong' endorses an indirect evaluative meaning which is positive and hence associated by the subjects with 'honest' which is one of those adjectives that belong to the evaluative dimension of the Semantic Differential because it denotes a property that is positive in almost every possible context. In a negative context like 'enemy' the indirect evaluative meaning endorsed by 'strong' would be negative and hence be dissociated from the overall positive 'honest'. Conceiving of X as 'friend' rather than as 'enemy', the subjects of Osgood and Richards filled in 'X is strong *and* honest' as in 'my *friend* is strong *and* honest' and not 'X is strong *but* honest as in 'my enemy is strong *but* honest.'

Having an explanation for the apparent encompassng evaluative dimension uniting the dimensions of the Semantic Differential we may conclude that the concept of 'subjective subordination' provides the most adequate model of implicit knowledge about 'good' and 'evil' in order to account for the empirical data from Semantic Differential research. The main implications of this model – also referred to as the 'relativistic evaluative meaning concept' – can be summarized in the following points:

1 Implicit knowledge deals with objective (nonevaluative, descriptive, denotative) properties as co-ordinately related meanings which can be represented by dimensions defining a space referred to as the objective semantic space. For instance, an objective semantic space regarding 'coffee' may involve dimensions such as 'black-white' and 'warm-cold'.
2 The description of an object (or 'concept' in Semantic Differential terminology) in objective (nonevaluative, etc.) terms can be represented by a point in this space. For instance, an objective description of 'the coffee left from yesterday' may correspond to a point in the objective semantic space near to the corner 'black/cold'.
3 Evaluative properties of objects are based on subjective evaluative standards which

are representations of hypothetical optimal instances of objects that, just like the descriptions of the real objects, can be represented by points in the semantic space. For instance, my evaluative standard about coffee may correspond to a point in the objective semantic space near to the corner 'black/warm'.

4 An object is positively evaluated if its objective properties are in agreement with the evaluative standard applied to it by the evaluating subject. This means that within the objective semantic space the point representing the objective description is localized near to the point representing the evaluative standard. In case of manifest disagreement between object and evaluative standard, the corresponding points are segregated and the object is negatively evaluated. For instance, the 'coffee from yesterday' described in (2) is clearly not in agreement with my evaluative standard described in (3): it is too cold.

5 The agreement or disagreement of an object with the evaluative standard constitutes a subjective property and encoded in direct evaluative terms such as 'good' and 'bad'. Thus, 'the coffee from yesterday' may be called 'bad' in that, being cold, it deviates from the evaluative standard 'black/warm'.

6 When a point representing an evaluative standard is defined in an objective semantic space, then the dimensions of this space endorse evaluative meanings defined by the projections of the point on the dimensions. For instance, if 'black-white' and 'warm-cold' are assumed to represent two dimensions of an objective semantic space, and the point representing 'good coffee' is localized in the corner 'black/warm', then this point has projections near to 'black' on the 'black-white' dimension, and near to 'warm' on the 'warm-cold' dimension. It follows that, at least in the context of 'coffee', the objective properties 'black' and 'warm' endorse positive evaluative meanings – they become 'good' properties – while 'white' and 'cold' become negative.

7 The evaluative meaning endorsed by an objective term by mediation of an evaluative standard as described in point 6 is qualified as 'indirect evaluative'.

8 In that evaluative standards vary across objects (concepts) also their projections on the semantic dimensions vary and hence the indirect evaluative meanings endorsed by the objective properties represented by those dimensions vary. In this way 'black' and 'warm' may be 'good' when applied to 'coffee' but 'bad' when applied to 'ice-cream'.

9 If the projections of the evaluative standards of all possible objects tend to coincide with one and the same pole of a particular objective dimension, then the indirect evaluative meaning endorsed by this dimension is very constant across contexts. It follows that in verbal descriptions of objects the objective properties represented by such a dimension are always aligned in the same way with direct evaluative properties like 'good-bad'. Examples of such stable indirect evaluative terms may be 'honest-dishonest' and 'sweet-sour'. Because of this alignment, the procedure followed by Osgood in order to establish the Semantic Differential yielded one outstanding 'evaluative' dimension representing a conglomerate of direct evaluative meanings and stable indirect evaluative meanings.

10 When a term denoting an objective property is presented in isolation, without information about a context, then it may nevertheless endorse an evaluative meaning

which would correspond to the indirect evaluative meaning endorsed by the term in a positive context. Hence 'long' is experienced as better than 'short' as it is in 'long success' but not in 'long disease'. This mechanism, which relies upon the positive-negative asymmetry explained in section 3, may account for the coalescence of the dimensions of the Semantic Differential into an all-encompassing opposition of 'the positive' against 'the negative' that was observed in certain studies.

For the sake of completeness I must mention that the idea to represent the evaluative by a point within a nonevaluative multidimensional space is implied by a methodological model of data processing developed by Coombs (1964) that has been very influential in mathematical psychology. Coombs was not concerned with evaluative meaning as a theoretical concept. His idea seemed intuitive and he did not mention the Semantic Differential that was apparently inconsistent with it. The fact that the idea turned out to be workable and, as was demonstrated in this section, even seemed consistent with the outcomes of Semantic Differential research, may be one more argument in favor of the 'subjective-subordination' view on the relationship between the evaluative and the nonevaluative.

However convincing the arguments presented in this section may be, they should not let us forget that 'subjective-subordination' represents an 'as if' theory. In principle it may not be impossible to design a theory on the basis of the 'objective co-ordination view' that would account for the same data as well. Actually Osgood himself has stuck to a 'co-ordinate' model, however at the expense of complex explanations which are less parsimonious than those offered by the 'subjective subordination view' (Peeters, 1979). Apparently, the concept of 'subjective subordination' is a better explanatory tool than the concept of 'objective co-ordination'. However the latter may offer a better description of phenomenal experience. Zajonc (1980) has even obtained data suggesting that the order in which the evaluative and the nonevaluative enter into awareness is opposite to the process order assumed by the subjective subordination view. According to the latter one would expect that a perceiver becomes first aware of the objective properties of the perceived object and subsequently derives its evaluative properties by comparing the objective properties with an evaluative standard. However, Zajonc found that perceivers made evaluative discriminations concerning tachistoscopically presented objects before and in the absence of manifest discriminations of objective properties. In the light of this observation, it is feasible that, in agreement with the linguistic equivalence of evaluative and nonevaluative terms mentioned in the beginning of this section, 'good' and 'bad' are phenomenally experienced as properties of the same order as 'yellow, liquid, long' and other so-called 'objective' properties. If the concept of 'subjective subordination' provides more than an explanatory 'as if' theory and describes real psychological processes, then these processes should be unconscious.

5. THE PERSONAL OR IMPERSONAL CHARACTER OF GOOD AND EVIL

In many cultures, good and evil are personalized into good and bad spirits, demons, etc. which are beings with a personal character. In the Christian tradition we find also

personalizations which are quite consistent with the positive-negative asymmetry described in section 3. The ultimate good is identified with a personal God who represents at the same time the ultimate being. The ultimate evil is personalized into Satan who, however, is not identified with the ultimate being. Being a fallen angel, he is an originally good being that has been transformed into bad, somewhat in the same way as terms with negative meanings are often transformations of positive roots (cf. un-happy, un-pleasant, etc.).

In the present section, we shall not go further into the possible symmetries and asymmetries in these personalizations but into the act of personalization itself. More especially we shall examine whether personalization can be demonstrated to occur on the level of implicit knowledge and what, on this level, 'personalization' may mean.

As explained in section 2, the empirical basis of the Semantic Differential was provided by asking subjects to rate large and diversified sets of concepts (substantives) against large and diversified sets of scales (adjectives). One consequence of this procedure was that in most of the cases the adjectives that defined the scales applied only in a metaphorical way to the concepts to be rated (e.g.: 'house' rated against 'honest-dishonest'). Research on this matter even led to the conclusion that the metaphorical use of the adjectives would be a necessary condition for obtaining the typical dimensional structure of the Semantic Differential. Indeed, other dimensional structures have been found to show up when a procedure was applied that excluded the metaphorical use of the adjectives (e.g.: Szalay and Bryson, 1974). Nevertheless, there seems to be at least one exception. The typical dimensions of 'evaluation, activity and potency' can be readily obtained with literally used adjectives if the adjectives and the concepts to be rated both belong to the personality domain (e.g.: 'my aunt, Albert Einstein, etc.' rated against 'honest-dishonest, humorous-humourless, etc.', cf. Kuusinen, 1969).

In search for an explanation of this exception Osgood (1969, p. 196) speculates that human language may have evolved 'to enable humans to talk about humans'. However, a less questionable explanation, not at all incompatible with Osgood's, may be provided by the assumption that subjects are disposed to an animistic world view making them to apply the same personalistic categories to the non-human as to the human. In our culture, the literal use of these categories may have become restricted to the personality domain without excluding that these categories continue to be used in a metaphorical way far beyond the specific domain of personality. Hence the Semantic Differential may show us an important aspect of implicit knowledge which is that the brain seems attuned to organize information following a personalistic model. The question then arises whether we can trace typically personalistic features in the way implicit knowledge deals with 'good' and 'evil'.

In order to answer this question, we need first of all a suitable definition of the concept 'person'. To that end we may proceed from the distinction between *person* and *individual* stressed by Martin Buber (1970) in his classic work 'I and Thou'. According to Buber, this distinction is primarily relational. A relationship is said to be 'between individuals' if it has a functional character. This is the case when the one individual relates to the other as an object of cognition, localized in time and space and with certain instrumental value.

However, a relationship 'between persons' is devoid of any instrumental concern. It is an *encounter* in which the other is not experienced as a means to further goals such as the increase of one's knowledge or the improvement of the quality of life, but as a goal in itself. We shall not give a full account of Buber's phenomenology of the person and the individual but point to three implications of it that are relevent to our present dealing with 'good' and 'evil' on the level of implicit knowledge.

First, the experience of the 'encounter' is not limited to the relation of a subject with a human or supra-human entity, but also with an infrahuman entity such as a mountain or a tree. This means that a personal character may be endorsed by categories of 'good' and 'evil' such as those implied by the Semantic Differential which are not restricted to the evaluation of human-like entities but apply to infrahuman objects as well.

Second, an encounter is not necessarily a pleasant event, which leaves room for a personalization of 'good' as well as of 'evil'.

Third, in the encounter, the relationship 'from person to person' is conceived of as a relationship between 'I and Thou' or 'self and other'. In the impersonal relationship 'from individual to individual', however, the 'individual' is conceived of as a 'he, she' or 'it'. This means that the concept of 'person' is related to *pronominal concepts* of the *first* and *second person*, while the concept of 'individual' to the pronominal concept of the *third person*. One interesting implication of the link between pronominal concepts and personalization is that the pronominal concepts offer an avenue to the study of personalization in implicit knowledge. Indeed, categories of knowledge may be characterized as 'personal' if they are anchored on the concepts 'self' and 'other', and as 'impersonal' if anchored on concepts belonging to the 'third person'. What this means may be illustrated by the following thought experiment.

Imagine that a chemist shows you two bottles and asks whether it would be theoretically possible that they contain exactly the same chemical substances. At a first glance you notice that the contents of the bottles look at least very alike. Both seem to contain the same pale liquid. Nothing happens when you shake them and expose the liquids to the air. However as soon as you pour them together a chemical reaction takes place changing the initial pale color into deep red. Considering that if the bottles had contained the same chemical substance the chemical reaction would have taken place before they were poured together, you conclude that they could not have contained exactly the same substances but that there was a difference between them that accounted for the chemical reaction.

The next day a psychologist draws your attention to two young men who are waiting for a bus and asks whether it would be theoretically possible that they have exactly the same characters or personalities. At first glance you notice that they look very alike. They could be identical twins both having the same physique, with the same pale faces. Nothing happens when they move a little around and breathe deeply the fresh air. Suddenly the bus arrives and, while they get in, you observe that their bodies touch each other by accident. As soon as they make bodily contact, a psychological reaction takes place changing the initial pale color of their faces into deep red. The observation that both young men blush when accidentally touching each other confirms your initial impression that they are very alike and that the similarity between them is not restricted

to their physical appearance but extends to their personality both appearing a little timid, shy and unsocial. Hence you conclude that you cannot reject the possibility that they might have exactly the same characters or personalities.

There is an apparent contradiction between the latter conclusion and that from the day before. Both times, two pale objects were observed to become red because of physical contact with each other. However, when this event was presented as a chemical reaction, you deduced 'dissimilarity', while when it was presented as a psychological reaction, 'similarity' between the two objects. Why? The answer may be provided by research findings or relational information processing suggesting that chemical knowledge is impersonal in that it is anchored on concepts associated with the 'third' pronominal person while knowledge about personality is personalized in that it is anchored on the concepts 'self' and 'other' which belong respectively to the 'first' and 'second' pronominal person (Peeters, 1983). Indeed, concepts associated with the third person correspond to specific objects or individuals such as 'bottle A, bottle B, John, Peter, etc.'. The concepts 'self' and 'other', however, do not coincide with specific objects or individuals but cut across them in that each object or individual relates to a 'self' to itself and as an 'other' to the others. For instance, bottle A can be conceived of as 'self' with respect to bottle A and as 'other' with respect to bottle B in the same way as 'John' can be conceived of as 'self' with respect to John and 'other' with respect to Peter. The point is that in order to derive chemical properties, the bottles are not dealt with in terms of 'self' and 'other' but in terms of specific objects such as 'bottle A' and 'bottle B'. Hence you did not conclude that the contents of the bottles were alike in that either reacted to 'the other' in the same way. Instead you considered that the one (viz. A) contained a substance that reacted to the the content of B but not to that of A, while the other (viz. B) showed exactly the opposite pattern in that it contained a substance that did not react to the content of B but the more to the content of A. However, in order to derive personal properties, the persons are not dealt with in terms of specific individuals such as 'John' and 'Peter' but in terms of 'self' and 'other'. Hence, observing that John and Peter blushed when touching each other, you did not conclude that their personalities differed in that the one (viz. John) blushed when touching Peter but not when touching John, while the other (viz. Peter) showed exactly the opposite pattern in that he did not blush when touching Peter but the more when touching John. Instead you considered that their personalities were alike in that either John as well as Peter, blushed when touching an 'other' but not when touching 'oneself'.

The question now arises whether implicit knowledge concerning 'good' and 'evil' is anchored on the concepts 'self' and 'other', which may imply a personalized view, or on concepts associated with the third person. In search for an answer, we may proceed from the concept of 'evaluative standard' which in section 4 was defined as a category of implicit knowledge underlying the subject's experience of good and evil in his confrontation with 'objective' reality and as such may be conceived of as constitutive of the subject's value system.

One may remember that an 'evaluative standard' is by itself a nonevaluative description of a hypothetical 'good' state of affairs that serves as point of reference in order to define the 'goodness' of 'badness' of a perceived real state of affairs. One relevant point here is that the 'goodness' of the hypothetical state of affairs that is the

evaluative standard can be defined from a variety of viewpoints implying a variety of possible evaluative standards with respect to the same 'real' state of affairs. Another relevant point is that in principle these viewpoints can be defined in terms belonging to the third pronominal person ('good' from the viewpoint of 'John', from the viewpoint of 'Peter', etc.) as well as in terms belonging to the first and second persons ('good' from the viewpoint of 'the self', from the viewpoint of 'the other').

By way of illustration, let us imagine that John is a gangster who has hired a killer who has to shoot John's rival 'Peter'. Let us consider now an 'objective' property of the killer which is his high ability to hit. This property may be 'very good' from the point of view of John but 'very bad' from the point of view of Peter in that it may cost his life. Actually, a 'good' killer is 'good' for John but 'bad' for Peter in that the evaluative standards applied to a killer by his employer are opposite to those applied by his victim. The present example does not only provide an illustration of how evaluative standards belonging to the third person may apply, but shows at the same time how variable these evaluative standards and hence how arbitrary the evaluative meanings underlying by them may be. This arbitrariness, however, does not exist with respect to the 'second person' which allows only for evaluative standards from one single viewpoint, viz. that of 'the other' irrespective of whether this other is John or Peter, a killer or his victim. 'Good' means 'good for the other'. In this respect, the killer's ability to kill may be neither 'good' nor 'bad'. It may be good for those 'others' who are his employers, but bad for those 'others' who are his victims. However, the concepts of 'employer' and 'victim' belong to the 'third person' only the 'otherness' of the other being relevant and hence we may be left with a neutral evaluation of the 'ability to hit'.

There are, however, properties which are not neutral with respect to the 'other'. In Peeters (1983) ample empirical evidence has been provided showing that certain personality attributes are experienced as 'good' versus 'bad' for the 'other'. Moreover they constituted a dimension that corresponded to a dimension underlying implicit knowledge about personality established by other investigators as well (e.g. Rosenberg and Sedlak, 1972). This dimension was called *other-profitability* and involved adjectival opposites such as 'tolerant-intolerant, generous-selfish, trustworthy-untrustworthy, trusting-suspicious, sensitive-impassive, etc'. The reader may recognize the general flavor of the evaluative dimension of the Semantic Differential. As was explained in section 4, the latter dimension included, besides direct evaluative terms such as 'good-bad', a number of indirect evaluative terms among which were typically other-profitable personality traits, such as 'honest-dishonest' and further properties such as 'sweet-sour' that are 'other-profitable' in that they make the objects that have these properties attractive or aversive for the 'others' who have to deal with the objects.

The idea underlying the concept of 'other-profitability' has also appeared in early comments on the Semantic Differential relating the evaluative dimensions to behavioral 'approach' and 'avoidance' (Carroll, 1959; Peeters, 1967). According to these comments, objects with 'good' properties have in common that they are approached while objects with 'bad' properties would be avoided, the 'approaching' or 'avoiding' subjects being viewed as 'others' who are confonted with the objects and experience the positive or negative consequences of dealing with the objects.

Finally, as was already mentioned above, evaluative standards can also be defined

from the point of view of the first person, being 'the self'. 'Good' then means 'good for the self' and the killer's ability to hit is then a 'good' property in that it is 'good' for the killer 'himself'. In Peeters (1983) was shown that not only the properties experienced as 'good' from the point of view of the 'other', but also those experienced as 'good' from the point of view of the 'self' – i.e.: the person who has the properties – constituted a dimension that corresponded to a dimension underlying implicit knowledge about personality established by other investigators as well (Rosenberg and Sedlak, 1972). This dimension was called *self-profitability* and involved adjectival opposites such as: 'self-confident-shy, ambitious-unambitious, powerful-weak, practical-clumsy, quick-slow, etc.'. The reader may recognize in these adjectives a combination of the Semantic Differential's 'potency' and 'activity' dimensions.

The latter fusion of the relatively weak and unstable 'activity' dimension with the more pronounced and stable 'potency' is not an uncommon finding in Semantic Differential research where the resulting 'combined dimension' is sometimes labelled *dynamism* (Osgood, 1962). At a first glance the interpretation of this combined dimension as 'self-profitability' may look awkward in that the dimensions of the Semantic Differential are not restricted to the processing of information about humans only but about all possible kinds of objects. There may be no problem to interpret the beauty of a mountain as 'other-profitable' in that the 'others' who enjoy that beauty can be readily conceived of as human subjects. However, how could properties of a mountain such as 'high' and 'big' be interpreted as 'self-profitable' if this would mean that they are 'good properties' when evaluated from the point of view of the mountain himself? Does it make sense to consider properties of a mountain as 'good for himself' as if the mountain would be a human subject? It may make sense, indeed, if the mountain is personalized. As was mentioned earlier in this section, Buber holds that an infrahuman object such as a mountain can be related to in the way of the encounter between 'I' and 'Thou', which means that it is responded to as a 'person' whose properties reflect a 'personality' conceived of as analogous to a human personality. Those who do not want to follow Buber that far may view the personalization of the mountain as merely metaphorical as was suggested in the beginning of this section with respect to the metaphorical character of the dimensions of the Semantic Differential when applied beyond the personality domain.

Altogether, we may conclude that two main dimensions of the Semantic Differential, which in previous sections were shown to form outstanding categories of implicit knowledge related to 'good' and 'evil', reflect a personalistic view on the world. In that they are anchored on the concepts 'self' and 'other', they imply that 'objects' are, at least metaphorically, dealt with as 'persons' with 'personalities', the properties of the objects subsuming the character of 'personality traits'.

One may observe that the present rationale readily accounts for the personalization of the concrete good and bad objects encountered by a subject, indeed, but not for the personification of the abstract 'goodness' or 'badness' of these objects into good and bad spirits. However it may be reasonable to assume that the human information processing device shows a tendency to 'objectify' abstract categories. For instance Yates (1985) has reviewed ample evidence that the content of awareness is a model of the world that is

primarily composed of 'objects' rather than of 'sensations' or 'abstract categories'. Once being objectified, there is no reason why abstract categories such as 'good' and 'evil' could not be personalized into representations of good and bad spirits.

6. CONCLUDING REMARKS

It may be evident that the implicit knowledge that constitutes the software of the brain includes evaluative categories that can be regarded as 'psychological immediates' prefiguring 'metaphysical ultimates concerning good and evil'. Indeed, on the level of immediate information processing, the brain seems to deal with 'good' and 'evil' following certain principles that appear also in the ultimate concepts established by religious and philosophical thinkers. In this way, the brain seems not to join the Manicheists but those philosophers who stress the primacy of the 'good' with the 'bad' being viewed as privative. Further, in the phenomenal experience of objects, 'good' and 'evil' may appear as properties of the same order as nonevaluative properties such as color and shape. In this respect the brain seems to align with philosophers who hold an objective theory of value. However, in order to account for the variety in the phenomenal experience of 'good' and 'evil' in a parsimonious way, we have to assume that the underlying processing of information is organized in a way more consistent with a subjective theory of value. Finally, in that the main categories of implicit knowledge regarding 'good' and 'evil' seem to be anchored on the concepts 'self' and 'other', they may belong to a personalized view on the world.

The present conclusions are based on empirical data on verbal information processing that were provided by psycholinguistic and social psychological research. Data, however, are not informative by themselves. They have to be interpreted which implies that they are looked at from a particular perspective. In this way the perspective adopted in the present article was that of today's cognitive science of which Kant may be the 'Copernicus' and the computer the 'Galilean telescope' (De Mey, 1982 p. 276). Indeed, the present 'softwares of the brain' resemble Kant's 'a priori categories'. Hence, the significance to be attributed to the present conclusions is relative to the significance to be attributed to a Kantian perspective as such. To the extent that a Kantian perspective is assumed to be an avenue towards warranted knowledge and understanding, the present conclusions may be part and parcel of the raw material from which philosophical reflections on ultimate reality and meaning may proceed. In behalf of those who want to broach this reflection, I may conclude this paper with the following remarks.

1 It may be very tempting to conceive of the continuity between psychological immediates and metaphysical ultimates as a causal relationship. However, it may be very difficult to define exact causal relationships. Should the continuity be explained in that the software of the brain for everyday information processing determines largely the philosopher's reflexive thought, or should it be explained that the softwares of the actual brains are influenced by philosophical achievements from the past? The latter alternative is not incompatible with the a priori character assigned to the 'software of the brain'. As De Mey (1982) has pointed out the present day cognitive

viewpoint allows for a developmental perspective implying that cognition is shaped apparently by a priori categories that, however, are not necessarily innate as such but that may grow and change over time.

2 The agreement or disagreement of ultimate philosophical concepts with psychological immediates is irrelevant with respect to the epistemological truth that should be accorded to these concepts. However, it may be psychologically relevant in that it may have an impact upon the subjective acceptability of the philosophical concepts and hence on the veracity that is subjectively accorded to them.

3 The dichotomy of 'good' and 'evil' seems to align with other dichotomies such as 'being-nothing, cosmos-chaos, order-entropy, etc.' but not with 'I-Thou relation – third-person relation, spirit-matter, personalism-materialism, nature-culture, etc.' The latter dichotomies rather reflect two levels on which a subject can deal with reality and on each of which it is confronted with good and evil, being and nothing, order and entropy, etc. The universal categories of implicit knowledge relative to 'good' and 'evil' that are described in this article seem to belong primarily to the first of these levels. As such, they may be rooted in the natural conditions (being in a world with others) and corresponding dispositions (personalization) of the human being. In this respect they contrast with the more arbitrary individual-bound or culture-bound categories of 'good' and 'evil' of the second level which is no longer anchored on the personal concepts of 'I' and 'Thou' but on impersonal concepts associated with the third pronominal person.

REFERENCES

Bentler, P.M. 1969. 'Semantic Space is (approximately) Bipolar'. *Journal of Personality*. 71: 33–40.

Boucher, J. and Osgood, C.E. 1969. 'The Pollyanna Hypothesis'. *Journal of Verbal Learning and Verbal Behavior*. 8: 1–8.

Broadbent, D.E. 1965. 'Information Processing in the Nervous System'. *Science*. 150: 457–462.

Buber, M. 1970. *I and Thou*. Edinburgh: Clark.

Carroll, J.B. 1959. 'Review of the Measurement of Meaning'. *Language*. 35: 58–77.

Coombs, C.H. 1964. *A Theory of Data*. New York: Wiley.

De Mey, M. 1982. *The Cognitive Paradigm*. Dordrecht, Holland: D. Reidel Publishing Company.

Green, R.F. and Goldfried, M.R. 1965. 'On the Bipolarity of Semantic Space.' *Psychological Monographs*. 79: 6, Whole Nr. 599.

Jakobovits, L.A. 1966. 'Comparative Psycholinguistics in the Study of Cultures'. *International Journal of Psychology*. 1: 15–37.

Kanouse, D. and Hanson, L. 1971. 'Negativity in Evaluations'. In E.E. Jones et al. (Eds.) *Attribution: Perceiving the Causes of Behavior*. Morristown,N.J.: General Learning Press, pp. 47–62.

Kuusinen, J. 1969. 'The Affective and Denotative Structures of Personality Ratings'. *Journal of Personality and Social Psychology*. 12: 181–188.

Matlin, M.W. and Stang, D.J. 1978. *The Pollyanna Principle. Selectivity in Language, Memory and Thought*. Cambridge, Mass.: Schenkman Publishing Company.

Osgood, C.E. 1962. 'Studies on the Generality of Affective Meaning Systems'. *American Psychologist*. 17: 10–28.

— 1969. 'On the Whys and Wherefores of E, P, and A'. *Journal of Personality and Social Psychology*. 12: 194–199.

Osgood, C.E. 1979. 'From Yang and Yin to *And* or *But* in Cross-cultural Perspective'. *International Journal of Psychology*. 14: 1–35.
Osgood, C.E., May, W.H. and Miron, M.S. 1975. *Cross-cultural Universals of Affective Meaning*. Urbana, Ill.: University of Illinois Press.
Osgood, C.E. and Richards, M.M. 1973. 'From Yang to Yin to *And* or *But*'. *Language*. 49: 380–412.
Osgood, C.E., Suci, G.J. and Tannenbaum, P.H. 1957. *The Measurement of Meaning*. Urbana, Ill.: University of Illinois Press.
Peeters, G. 1967. 'Forming Interdependent Impressions of Personality: On Person Perception as a Function of Relational Structures'. *Psychologica Belgica*. 7: 129–138.
— 1971. 'The Positive-negative Asymmetry: On Cognitive Consistency and Positivity Bias'. *European Journal of Social Psychology* 1: 455–474.
— 1974. 'Patterns of Information Implied in Interpersonal Relations.' *Cognitive Schemata in Social Cognition*. Edited by J.M.F. Jaspars. Thematic issue of the *Nederlands Tijdschrift voor de Psychologie en haar Grensgebieden*. 29: 505–534.
— 1976. 'Evaluative Context Effects Upon Trait-adjectives and Nonlinear Combination of Information'. *XXIst International Congress of Psychology. Abstract Guide*. Paris: Société Française de Psychologie. 210.
— 1979. 'Person Perception and the Evaluative-meaning Concept'. *Communication and Cognition*. 12: 201–216.
— 1981. 'Implications of a Relativistic Evaluative-meaning Concept for Persuasive Communication'. *Revue de Phonétique Appliquée*. 57: 35–39. – Reprinted in *Language and Language Acquisition*. 1982. Edited by F. Lowenthal, F. Vandamme and J. Cordier. 1982. New York: Plenum Press, pp. 263–267.
— 1983. 'Relational and Informational Patterns in Social Cognition'. *Current issues in European Social Psychology*. Edited by W. Doise and S. Moscovici. Cambridge: Cambridge University Press, pp. 201–237.
Rosenberg, S. and Sedlak, A. 1972. 'Structural Representations of Implicit Personality Theory'. *Advances in Experimental Social Psychology. Vol. 6*. Edited by L. Berkowitz. New York: Academic Press, pp. 235–297.
Russell, J.A. 1979. 'Affective Space is Bipolar'. *Journal of Personality and Social Psychology*. 37: 345–356.
Snider, J.G. and Osgood, C.E. (Eds.) 1969. *Semantic Differential Technique: a Sourcebook*. Chicago: Aldine.
Szalay, L.B. and Bryson, J.A. 1974. 'Psychological Meaning: Comparative Analysis and Theoretical Implications'. *Journal of Personality and Social Psychology*. 30: 860–870.
Yates, J. 1985. 'The Content of Awareness is a Model of the World'. *Psychological Review*. 92: 249–284.
Zajonc, R.B. 1968. 'Attitudinal Effects of Mere Exposure'. *Journal of Personality and Social Psychology*. 9: 2, Part 2, 1–28.
— 1980. 'Feeling and Thinking. Preferences Need No Inference'. *American Psychologist*. 35: 151–175.

his time. Our readers will get a clear yet penetrating insight into the influence Li Dazhao exerted in directing the intellectual development of modern China on the way leading to Communism and the consequences this had for China. The central theme of Li's philosophy, which is known as the philosophy of youth, is his belief that there is a transcendental eternal youthful spirit of the universe and that the human person must identify with this spirit of the universe in order to become eternally young. The movement of the liberation of individuality goes hand in hand with the movement of unity in Universal Harmony which would have its consummation in a great International Organization, a Federation of mankind which knows no barriers of race and national boundaries.

The research interests of Dr. Guido Peeters, staff member of the Laboratory of Experimental Social Psychology at the University of Leuven, Research Associate of the National Foundation for Scientific Research in Belgium, lie in cognitive social psychology, more concretely in the relationship between language and social cognition, the role of evaluative-meaning processes in social judgment, and the cognitive processing of relational information.

Contemporary psychology deals with perception and cognition as constructive processes involving the use of presuppositional 'implicit knowledge' that constitutes the 'software of the brain'. Hypothetical descriptions of the content and structure of implicit knowledge can be derived from data on human information processing. In this way, categories of implicit knowledge regarding 'good and evil' have been derived from psycholinguistic and social psychological research data. The present article shows that these categories, which underlie the brain's everyday information processing, prefigure certain philosophical and religious concepts. For instance, the brain seems inclined to stress the primacy of the good rather than to adhere to a Manichean dualism. Further, it produces phenomenal experiences of the qualities 'good' and 'bad' which seem consistent with an objective theory of value. However, in order to account for the variety in the phenomenal experience of these qualities, we have to assume that on a deeper level the brain processes information in a way consistent with a subjective theory of value. Finally, the most widespread, and presumably universal, categories of implicit knowledge regarding 'good and evil' seem to reflect a personalized world-view. The present observations are argued to be relevant as part of the raw material from which reflections on ultimate reality and meaning should proceed.

In our section *Methods and Systematic Reflections* Prof. Anatoly M. Khazanov, former member of the N.N. Michluho-Maeklai Institute of Ethnography, the Academy of Sciences of the U.S.S.R., presently teaching in the Department of Sociology and Social Anthropology, The Hebrew University of Jerusalem, offers critical remarks on H.R. Battersby's 'Some Introductory Notes on Altaic and Uralic Studies ... ' as Dr. Jaan Kaplinski, Tartu, Estonia, U.S.S.R., previously had done in *URAM* 8: 228–230.

1.2.1.5.8
Luba Culture: Ulti
Society. A Phenoı

Jacques A. Theuws, *University*

1. METHODOLOGICAL PROB

It was Nietzsche's opinion that o
the problems he is discussing '
discussed is in no way part of his
professional curiosity, then this
talking (Bakker, 1966, p. 209). N
to be lured into this kind of th
sufficiently against any involve
questions he is supposed to
anthropologist an inner transform
a truly new man and only afte
eligible for the profession (Lévi
question must be asked how ma

From one point of view the a
He does not belong to the sociol
reason he is unable to argue fr
everyday life. He has to go 'int
experience on the spot, so tha
uncovering the hidden patterns
problem some thought, one must
of it.

There are, to begin with, the
racial differences with the inv
systems, etc. But, underlying all
the validity of this sort of sci
succession or simultaneity of
behaviour, are not just a matter
to go into a deeper analysis of w
in mind that a fact as such is me
context. To understand a fact in