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Chapter 15

The Linguistic Category Model and Personality Language

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INTRODUCTION

The long and venerable tradition that the issue of implicit personality theory enjoys in social psychology alone attests to the types of unresolved and intriguing questions that have taxed our minds for quite some time. This is the case, in part, because it used to be a meeting ground for personality and person perception in the 1960s but also touched upon broader issues such as the relationship among language, taxonomic approaches to personality, and person perception (cf. Semin, 1990a). These problems have remained with us, in some form or another, over the years.

In my contribution, I would like to explore the implications of a particular approach to implicit personality theory. The starting assumption for this approach is that any type of talk or discourse about persons (in science or otherwise) is predicated predominantly upon one medium: *language*. From this

assumption one can derive two noteworthy points irrespective of the type of theoretical concern about persons in psychology, whether it be about taxonomic or other types approaches to personality, about conceptions of self or identity, or impression formation, about cognitive, taxonomic, typological, or comparative perspectives, or otherwise. The first point is that, in the final instance, the anchor point for any theorizing and discourse, as well as for data collection, is mediated by, and represented in, language, because it enters all our activities as psychologists and lay persons in an integral way, thus influencing them. The second, more obvious, and simultaneously more complicated point is that everyday talk about persons always remains more complex than its scientific counterpart, because in scientific discourse, as Max Weber pointed out some time ago, we always, by necessity, extract that aspect of reality that coincides with our values at the expense of the complexity of reality. Thus, my contribution here will consist of an examination of some of the properties of language or human talk that applies to persons, namely, the interpersonal domain and the representation of the person in this domain. I shall refer to this domain in the present context loosely as *personality language*.

Given the preference to explore the *medium* in which the person is configured, there still remain a variety of ways in which to examine *implicit personality theory* (IPT)[1]. One possible avenue is to choose an exclusively *content-based* approach, namely, as representations of persons in everyday discourse, that is, as socially constituted theories of persons. There are a number of different things that one can do with such descriptive inquiries. Among other things, such descriptive investigations produce interesting indictments of scientific approaches (cf. Semin, 1987, 1990a). There are a number of different ways in which a descriptive approach can yield fruitful results (inter alia, Semin, 1989, 1990a; Semin & Rubini, 1990).

The other avenue is to examine features of the language we use in the interpersonal domain that are not necessarily accessible consciously in their relation to personality language. The concern here is to explicate cognitive properties of interpersonal terms whereby one regards such terms as the products of a linguistic community that, in its cultural evolution, has adopted this most powerful tool of all to fit its psychological requirements. Such requirements entail refining the properties of the most pivotal medium to maintain sociality such that it serves as a repository of collective memory, without requiring each new generation to find the best fit between its symbolic system and the psychological requirements that such a medium should contain. In short, the orienting assumption is that a number of psychological properties have been sedimented in language in the course of cultural evolution. By *psychological properties* I refer, at this stage, broadly and vaguely, to both human

[1] I must admit to a dislike to the term implicit because, on the surface level, the content-based reference to personality is by no means implicit, as a number of studies have demonstrated in examinations of everyday concepts of personality (e.g., Semin, Rosch, Krolage, & Chassein, 1987; Semin & Krahe, 1987; inter alia).

fective - cognitive propensities as well as interactional, stylistic properties that nerge in the course of human history. To the extent that language as a medium one we access, by necessity, unreflectingly, it contains a number of powerful ychological properties that are implicit. As I shall argue later, some of these operties are directly relevant to personality language.

To this end, the present contribution is an overview of a theoretical model ıout some features of the linguistic terms that we use to describe people and eir behaviors with a view to examining those aspects of the model that are ɪrtinent to personality language. Essentially, this model (termed the *linguistic ıtegory model*) that I have been developing with my colleague Klaus Fiedler .g., Semin & Fiedler, 1988; Semin, Fiedler, Maass, & Arcuri, 1989, inter ia) is a taxonomy of verbs and adjectives that are used in the interpersonal ɔmain.

It is important to preface the following exposition on the LCM, however ·iefly, in terms of the type and level of analysis underlying this approach. There ·e a number of different approaches in social and person cognition that rely on ısumptions referring to cognitive constructs in analyses of how we represent ıd process person knowledge and person terms. The approach adopted by the CM is one in which the terms used in the description of persons and their ehaviors are *conceptually* analyzed first in terms of their distinctive features as nguistic forms. On the basis of conceptual differences, distinctions are drawn ɛtween the different categories in the interpersonal domain, which are then ıalyzed with respect to systematic differences in their cognitive properties. To ıpture the difference: Whereas those models that rely upon cognitive constructs ısentially start with the primacy of intraindividual constructs in anchoring their ıvestigations of, for instance, person terms, and are thus intrapsychological ·ith respect to their points of origin, the LCM starts with an analysis of the roperties of a sociocultural product. The point of origin is the terms utilized in ıe interpersonal domain, mainly the point of departure is language. It is only ıen that systematic cognitive features of the different categories in this domain re examined. In mentioning this difference in emphasis, a word of caution is ·orth noting. Although the question of how such categories may have acquired ystematic cognitive implications is in itself an interesting question (cf. Semin, 990b), it is not central to the LCM. Neither is the classic *language and thought* ilemma at issue here. At the heart of the LCM is a systematic analysis of the ognitive implications of the linguistic categories employed in the interpersonal omain as devices to communicate about ourselves and others on a mundane veryday level as well as in scientific discourse.

THE LINGUISTIC CATEGORY MODEL

shall begin by briefly summarizing the LCM and the linguistic criteria on /hich it rests before proceeding to the implications of this model for personality

Table 1. The Classification of Linguistic Terms in the Interpersonal Domain and their Classification Criteria

Category	Examples	Characteristic Features
Descriptive Action Verbs (DAV)	call meet see visit	Reference to single behavioral event; reference to specific object and situation; context essential for sentence comprehension; objective description of observable events.
Classification Criteria: Refer to one particular activity and to a physically invariant feature of the action; action has clear beginning and end; in general do not have positive or negative connotations.		
Interpretive Action Verbs (IAV)	cheat imitate help inhibit	Reference to single behavioral event; reference to specific object and situation; autonomous sentence comprehension; interpretation beyond mere description.
Classification Criteria: Refer to general class of behaviors; have a defined action with a beginning and end; have positive or negative semantic connotations		
State Action Verbs (SAV)	amaze bore thrill surprise	Reference to single behavioral event; reference to specific object and situation; affective consequence of action distinctive feature of verb. Acts as general frame in interpretative sense.
Classification Criteria: Refer to unspecified action by sentence subject which leads to state in sentence object; have strong positive and negative semantic connotations.		
State Verbs (SV)	admire hate like abhor	Enduring states, abstracted from single events; reference to social object, but not situation; no context reference preserved; interpretation beyond mere description.
Classification Criteria: Refer to mental or emotional states; no clear definition of beginning and end; do not readily take the progressive form; not freely used in imperatives		
Adjectives (ADJ)	honest impulsive reliable helpful	Highly abstract person disposition; no object reference or situation reference; no context reference; highly interpretive, detached from specific behaviors.
Note however: (DAVADJ, IAVADJ, SAVADJ, SVADJ, and ADJ)		

language. The LCM was developed in the first instance to apply to the terms we utilize in describing persons and their behavior. We often describe people or groups with verbs referring to their actual behaviors or feelings, and in the form of adjectival (trait) terms as summaries of our observations, knowledge, and beliefs about those persons or groups. Consequently, one can distinguish between two broad categories with respect to the terms that are utilized in the interpersonal domain: Adjectives and verbs. In language, this distinction is given unambiguously and formally with adjectives referring to qualities/properties

(adjectives or traits terms) of persons and verbs referring to actions and psychological states. Verbs in the interpersonal domain can be distinguished as two broad categories (cf. Abelson & Kanouse, 1966; Brown & Fish, 1983; Caramazza, Grover, Garvey, & Yates, 1977; Miller & Johnson-Laird, 1976; Semin & Fielder, 1988; inter alia), namely, *action verbs* and *state verbs* (see Table 1). This distinction is based, among other things, on specific linguistic criteria. The usual linguistic test for state verbs is that they do not freely take the progressive form (e.g., "He believes in Santa Claus" and not "He is believing in Santa Claus"). Furthermore, state verbs are not freely used in imperatives (e.g., it is unusual to say: "Need money!" or "Know the answer!"). Other distinctive differences between state and action verbs are the following. The latter refer to observable behaviors with a clear beginning and end, whereas state verbs refer to mental or emotional states with no clear beginning and end.

Within the action verb category we (Semin & Fiedler, 1988; Semin et al., 1989) distinguish between three different types of action verbs, *descriptive action verbs* (DAV), *interpretive action verbs* (IAV), and *state action verbs* (SAV) (see, for criteria and examples, Table 1). DAVs are descriptive in the sense that there is at least one physically invariant feature shared by all actions to which the term is applied (e.g., *kiss* always involves the mouth, *phone* always involves the phone, *kick* always involves the foot, etc.). IAVs have a pronounced semantic valence and refer to a multitude of different actions that may have nothing in common (e.g., there is no single common feature shared by the different instances of *helping*) in contrast to DAVs. SAVs refer to unspecified actions of S in *subject-verb-object* sentences that lead to a state in O (e.g., *surprise*, *bore*, *entertain*); they are essentially action verbs whereby the affect is located in the object of the sentence instead of the subject, as in the case of SV (see Semin & Fiedler, 1992, for detail).

Adjectives as personality descriptors and their morphological origins. Adjectives and verbs constitute different linguistic devices. Verbs are devices that are employed to describe actions (*talk, help, cheat*) or psychological states (*like, abhor, notice*), whereas adjectives are essentially devices to describe properties of persons that are generalized across situations and persons, i.e., traits or dispositions (e.g., *friendly, extroverted, aggressive*, etc.). It is noteworthy that adjectives have different origins, namely, some are morphologically derived from verbs (e.g., *help-helpful, attract-attractive*, etc.) whereas others do not derive from verb stems (e.g., *friendly, introverted*, etc.). The LCM makes a distinction between different adjective categories in that, for each of the verb categories, there also exist derived adjectives (Semin et al., 1989).

Let us examine this for each of the verb categories in turn. The first category (DAV) consists of verbs referring to a particular activity and to at least one

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[2] This is a limited linguistic criterion, since this form does not exist in other languages such as German or Dutch.

physically invariant feature of the action in question (e.g., *talk, answer, tickle*). For DAVs there are corresponding derived adjectives (e.g., *talkative, answerable, ticklish*). Despite the fact that there are adjectives derived from corresponding DAVs the lexicon includes very few of these. An exhaustive search of English, Italian, and German yielded very few DAV-derived adjectives—six in English. For that reason this category is excluded from our discussion of adjective classes. The verbs in the second category, IAV, refer to a general class of behaviors with a clear beginning and end, and have positive and negative semantic connotations (e.g., *help, deceive, disobey*). Again, there are adjectives that are derived from the corresponding IAV-stems (e.g., *helpful, deceptive, disobedient*). Similarly, for the third category, SAV, there are corresponding adjectives (e.g., *attractive, seductive, tiresome*). For the fourth verb category, SV, which refers to psychological states (mental or emotional), there exist a number of derived adjectives (e.g., *likable, noticeable, trustworthy*). Additionally, we have a number of adjectives that are not derived from verbs to which we refer to as genuine adjectives (e.g., *adventurous, jealous, impulsive*).

In the following I shall focus on one specific line of research that we have pursued in so far as it is pertinent to the issue of implicit theories of personality or personality language. There are two facets to this work. The first is about the empirical foundations of the overall taxonomy; the second, deriving from this, is on the cognitive properties of adjectives with different morphological origins as well as genuine adjectives.

The empirical foundations of the LCM. One of the early arguments that we developed was that the verb categories and adjectives can be seen as ordered on a concrete abstract dimension as measured by five basic semantic judgments from DAV-IAV-SAV-SV-ADJ (Semin & Fiedler, 1988, 1991). The five judgments were (see Table 2): (a) how much a sentence (subject-verb-object (SVO) or sentence-auxiliary verb-adjective (s av. adjective) sentences) reveals about the subject of a sentence, (b) how enduring the quality in question is, (c) how much disagreement the sentence generates, (d) how easy it is to validate the statement, and finally (e) how informative the statement is about the situation. Essentially, the results of two early studies (Semin & Fiedler, 1988), a more recent extended study (Semin & Fiedler, 1990), and an Italian replication of these studies (Mannetti & Fasulo, 1990) suggests that the four verb categories and the general adjective class show systematic differences of the five constituent scales that could be explained with reference to the same unidimensional ordering from DAV to IAV to SAV to SV to ADJ. In summary, then "as one moves from DAVs...to ADJs, subject informativeness increases, situative informativeness decreases, and the sentence appears more endurable, less verifiable, and more likely to be the object of disagreement or dispute" (Semin & Fiedler, 1988, p. 563). These results are in fact generalizable over the whole lexicon of terms, because the selection of the terms was random from an exhaustive sampling of a dictionary (cf. Semin & Fiedler, 1988). Let us now move on to the issue that is more central to the theme of this contribution.

Table 2. The Cognitive Properties of Linguistic Categories in the Interpersonal Domain

Constituent Scales	Linguistic Category			
	DAV	IVA	SV	ADJ
How revealing the quality is	Low →			High
How enduring the quality is	Low →			High
How much disagreement the statement generates	Low →			High
How easy it is to verify the statement	High ←			Low
How informative the statement is about the situation	High ←			Low
Dimension	Concrete →			Abstract

Note: see also Semin & Fiedler, 1988.

The organization of adjectives. Let us now turn to adjectives as one of the fundamental linguistic devices that has traditionally occupied center stage in both IPT and personality taxonomies. I shall briefly provide a background sketch of the types of issues that have been examined aside from their general use and problematization in IPT, and then explore the implications of LCM for our conceptions of adjectives.

A. Background

Traits have been the subject of considerable interest in the psychological literature, as can be seen in numerous classical works (Allport & Odbert, 1936; Norman, 1963, 1967; Rosenberg & Sedlak, 1972; Wiggins & Broughton, 1985; inter alia). In this literature and the more recent social cognition approaches to the organization and structure of traits, the idea of verb stem derived adjectives has not been considered as an organizing principle with cognitive implications (e.g., Chaplin, John, & Goldberg, 1988; Hampson, John, & Goldberg, 1986; Rothbart & Park, 1986; inter alia). However, there have been diverse approaches to distinguishing between different adjectives (trait terms). An early and classic distinction on the organization of adjectives is between terms which describe states and those which describe traits (e.g., Allport & Odbert, 1936; Norman, 1967). More recently, it has been argued that these trait and state terms are prototype-based categories and are represented by ideal exemplars defined by multidimensional attributes (e.g., Chaplin et al., 1988). Aside from the considerable interest in the organization of adjectives into specific domains (e.g., the "big five," Tupes & Christal, 1961; Norman, 1963; McCrae & Costa, 1987, etc.), there has also been a sizable and growing concern about how adjectives (trait terms) are cognitively organized and represented. Essentially, most of the research in the more recent social cognition tradition has been about the cognitive organization and representation of person knowledge, namely, intrapsychological processes such as how schematic representations of trait terms

influence processing, storage, and retrieval (e.g., Hastie, 1981; Cantor & Mischel, 1979; Wyer & Srull, 1980). Another, more recent perspective has addressed the structural principles by which trait terms are organized, both in terms of the hierarchical relationships between adjectives as well as their category breadth (Hampson et al., 1986). Buss and Craik (e.g., 1983, inter alia) have proposed a frequency analysis of dispositional constructs with a view to investigating the *internal structure* of dispositional categories (see, however, Block, 1989). These authors suggest that dispositional inference is a function of the frequency with which specific acts belonging to a disposition are manifested, as well as the prototypicality of the acts for the disposition in question. Reeder and his colleagues (e.g., Reeder & Brewer, 1979) have examined the possible implicational structures between relevant behaviors and a trait (cf. Reeder, 1979; Reeder, Henderson, & Sullivan, 1982; Reeder, Messick, & Van Avermaet, 1977; inter alia), postulating different schematic representations for dispositional attributes along with distinct inference rules for such dispositional schemata. Influenced in part by this work, Rothbart and Park (1986) have studied the susceptibility of trait terms (adjectives) to evidence. In their research Rothbart and Park rely on an observation that has been prevalent in attribution theory, namely, that the relation between behavioral evidence and inferred trait is not comparable across all traits. The adjectives considered in their research are nearly all non-verb-derived ones. Common to all these social cognition approaches is the acknowledgement of systematic differences between trait terms with reference to *cognitive constructs*.

B. The Current Approach.

The research to date on the organization and structure of adjectives has not considered the possibility of differences between adjectives that are derived from morphologically related verbs and genuine (nonderived) adjectives. The analysis of adjectives (trait terms) prompted by the linguistic category model suggests that one can have trait terms derived from IAV (*help-helpful*), SAV (*bore-boring*) and SV (*like-likable*) as well as adjectives that are not derived form verbs (*kind, generous, greedy, introverted,* etc.). The important question in this context is: Are there general and systematic cognitive properties of adjectives as a function of the verb category from which they are derived? Do the properties of the verb stem category effect the psychological properties of the adjectives derived from the verbs? If there are such systematic differences in the cognitive implications of adjectives then this has ramifications for a number of issues in IPT, personality, and social cognition.

In a recent study (Semin et al., 1989) we turned our attention to an examination of the cognitive properties of the four adjective classes as a function of their morphology and potential cognitive features. The central question we posed in this research is to examine how the different adjective categories may

be organized along the judgmental criteria that we employed earlier on, along with some additional considerations about the confirmability or disconfirmability of trait terms derived form Rothbart and Park's (1986) work.

We entertained two theoretical arguments. The first was derived directly from our earlier work (Semin & Fiedler, 1988) and suggested that differences between adjectives should mirror the differences between the corresponding verbs. Thus, as the information expressed in the verbs increases from concrete to abstract, that is, from DAV to IAV, one could expect a parallel shift in the adjective classes from IAVADJ to SVADJ on the five constituent criteria. This appeared to be a plausible expectation form the point of view of a model that states that the semantics of the word stem shared by verbs and adjectives determines the verb-adjective link. Thus, one could maintain from this perspective, that if the meaning of SV stems such as *trust* or *like* are more informative and dispositional than, say, the meaning of IAV verb stems such as *help* or *deceive*, then the same differential relationship should hold for derived SVADJ and IAVADJ.

The second argument that was considered was quite different. In this case, we entertained the possibility that dispositional adjectives reflect an *inference process* rather than mere semantic properties of word stems. That is, adjective may reflect the causal and/or dispositional attributions elicited by descriptions of behavior expressed by the corresponding verb. It is important to note that one of the reasons for considering this alternative is the repeated demonstration that all three verb classes (i.e., IAV, SAV, and SV) have been shown to give rise to systematic attributional patterns (cf. Brown & Fish, 1983; DeGrada & Mannetti, 1991; Fiedler & Semin, 1988; Franco & Arcuri, 1990; Semin & Fiedler, 1992; inter alia). Dispositions inferred from IAV verb sentences (i.e., "S helps O", "S is helpful") are regularly attributed to the subject (i.e., *helpful* is a property of S rather than O). As Semin et al. (1989) argued earlier

> these dispositions should be especially informative because the events expressed by the verb and the adjective are located within the same person (S). Action verbs imply high subject control and they do not refer to properties of the object person (i.e., nearly anybody can be helped). According to this reasoning, IAVADJ attributed to S should be very informative because the underlying implicit attribution to S is the most unequivocal one. Only genuine ADJ should be more informative in this respect because there is no underlying verb sentence so that no other person reference besides S is involved and the attribution to S is perfectly unequivocal. According to the same argument, SVADJ are less informative because the stated disposition (O is likable) refers to the object person in the related verb sentence (S likes O) so that the state expressed by the verb and the disposition are in different persons. It is therefore not under O's control that someone else (S) likes him or her. Rather, the meaning of 'likable' requires a complementary attribute in another person who 'likes'. Moreover, since the verb sentence "S likes O" reveals nothing about what makes O likable, SVADJ should be less informative concerning O's dispositions or traits. Finally, SAVADJ (e.g., tiresome), like IAVADJ, refer to S

> in the verb sentence (S tires O), but the event or experience expressed in the verb is located within O. Thus, although the causal attribution to S is rather unequivocal, the meaning of these terms reveals nothing about how S accomplishes that experience in O. We would therefore expect SAVADJ to have an intermediate position between IAVADJ and SVADJ on an informativeness dimension. (p. 17)

To examine these two theoretical alternatives with respect to how adjectives are organized and the cognitive properties that contribute to this organization, we conducted two complimentary studies. In the first one we investigated 40 adjectives, 10 from each of the four adjectives classes, with respect to the five constituent scales (cf. Table 2). Furthermore, we examined differences between these adjective classes on the basis of a set of dependent variables derived from Rothbart and Park's (1986) study that examines the confirmability disconfirmability of trait terms. In our context we regarded the confirmability issue as one linked to the verifiability or validity of trait terms. On the basis of this study the ordering we obtained, both on a discriminant analysis as well as an analysis of variance of the two-component factorial solution of the dependent variables with the adjective categories as the independent variable, confirmed the ordering predicted by the second theoretical alternative. The discriminant analysis yielded two significant functions by which 92.5% of the adjectives were correctly classified. The factor analysis yielded two orthogonal components mimicking the solution obtained from the discriminant analysis. This in itself is interesting, because, whereas the latter method maximizes the variance between the categories and does not enforce orthogonality, factor analysis imposes orthogonality and minimizes variance between the categories. The first of the two components is characterized by high factor loading of the five constituent scales, and the second component by the verifiability, validity items. Interestingly enough, on both factors the relative ordering of the categories was identical, namely, from ADJ, to IAV, to SAV, to SV. This seemed to suggest that we had some support for the second theoretical alternative that we had entertained, namely, that adjectives retain properties of the inference process, rather than the argument that the semantics of verb stems shared by verbs and adjectives determine the ordering of adjectives.

It remained ambiguous, however, whether this inductive inference property that is retained influences both factors or just one. To that end we conducted an experimental study in which we were interested in identifying features of inference processes that are implicit in verbs with a view to examine whether such inductive inference features lead to a similar ordering of verbs (i.e., IAV, SAV, and SV). Here we were concerned with the following issues. First, we examined the relative frequency of occurrence of different states and actions as a function of verb class. Second, we were concerned with the likelihood of inferring a disposition or trait given a particular action or state sentence. We also inquired how confident subjects would be in their likelihood judgments. We then assessed the causal inference that subjects draw about the subject and object of a

sentence, as well as other potential sources in simple SVO sentences, in order to investigate whether causal informativeness was mediated by the informativeness of verbs. Additionally, we assessed the endurability of the behavior expressed by the verb, as well as how much a verb revealed about a person.

We found that the verbs that suggest the clearest S-causation (IAV) lead to the strongest likelihood inference, SAV verbs occupying an intermediary position, and SV verbs with the weakest dispositional inference likelihood. Interestingly, neither confidence nor the frequency of occurrence of actions or states in everyday life showed any systematic difference across the verb categories.

The two important points to emerge from this study were the following. First, a factor analysis revealed the informativeness (or abstract concrete ordering) factor to be independent of inductive inference dependent variables, which loaded on the second of the two factorial solutions we obtained. Furthermore, an analysis of the factor scores with verb class as the independent variable suggested that the ordering of the three verbs on the inductive inference factors was identical to the one obtained by the examination of the adjectives, namely, IAVs present the strongest inductive inference, SAVs occupy an intermediary position, and SVs have the weakest position. These findings are further corroborated by a more recent study (Semin & Fiedler, 1992).

What are the implications of these findings? One clear message that is conveyed for the domain of personality language by these findings is that adjectives (trait terms) are not a priori equivalent. There are strong systematic differences in the cognitive properties of adjectives, depending on whether they derive from verb stems belonging to different verb categories or are non-verb-derived adjectives. These findings underline the argument advanced by the LCM that the a priori classification of adjectives (trait terms) as a function of their morphological origins contains distinctive and systematic cognitive properties. This opens an avenue to examining trait terms systematically with respect to a number of issues in the domain of personality language.

THE IMPLICATIONS OF THE LCM FOR PERSONALITY LANGUAGE

In the following I would like to draw some of the potential applications of the LCM for personality language and issues that have been raised in the literature, essentially because the LCM provides an additional perspective for reconceptualizing some of these problems. One of these can be seen in the context of the work done by Hampson et al. (1986). These authors investigate the question of the level of generality or inclusiveness of traits as well as the question of category breadth (as the diversity of behavioral manifestations for a trait). The framework advanced here for a classification of traits suggests that both inclusiveness and breadth may be regarded as a function of adjective category. As Rothbart and Park (1986) argue, the imaginability of trait-related behaviors may be related to

the level of generality or inclusiveness of a trait. In the context of our work this has some interesting ramifications. The systematic differences between trait terms on the verifiability and informativeness or abstract–concrete dimension suggests a different approach to the category inclusiveness and category breadth questions. Thus, one issue that may be worth further exploration is the question of the number of behaviors that the different adjective categories refer to. It is very likely that these are systematic differences in the number of behaviors that are referred to by the different adjective categories, and that the informativeness (or abstract–concrete) dimension may be correlated positively with the number of behaviors associated with a trait. This may also have implications for the act–frequency approach. It seems intuitively obvious that, whereas, for instance, IAVADJ have a relatively narrow range of behaviors that they refer to in comparison to ADJ, SAVADJ, and SVADJ do not have any direct behavioral referents. This type of approach would provide a linguistic foundation to the questions of category breadth and inclusiveness and thus complement approaches that rely on cognitive constructs.

A further view is prompted by reconsidering the issue of confirmability and disconfirmability of trait concepts (Rothbart & Park, 1986). Rothbart and Park's work suggests that traits vary in terms of the number of occasions that permit their confirmation or disconfirmation, the clarity and specificity of the behavioral exemplars associated with trait terms, and the number of instances that are required to confirm or disconfirm a trait. The present framework suggests that these general findings, however interesting they may be in their own right, actually vary systematically as a function of the adjective category in question.

One of the immediate applications of the present division of adjectives into four different groupings can be seen in relation to the issue of state and trait conceptions. Whereas some authors have argued that this distinction is an arbitrary rather than a cut and dried one (e.g., Allen & Potkay, 1981), others (Chaplin et al., 1988) have conceived of "the categories of trait and state in terms of prototypical exemplars rather than their boundaries" (p. 541). The work of the latter investigators sets out to identify such prototypical exemplars and the attributes that differentiate between these sets with a view towards uncovering the distinctions that people make between state and trait concepts.

This is undoubtedly an interesting approach to the problem. However, our present work suggest a different approach to this distinction. The argument that can be derived from the LCM is that the distinction between traits and states can be seen as a consequence of the morphological stems of the adjectives in question. In fact, when two independent judges (see Semin et al., 1989) rated each of the concepts listed by Chaplin et al. (1988) (cf. their Tables 1 and 2) under *traits*, *states* and *activities* with regard to the verb stem, the terms included under *traits* consist primarily of adjectives (i.e., 18 out of 25) not derived from interpersonal verbs. Of those terms noted under *states*, 14 out of 25

terms are adjectives derived from state referent verbs (SAV and SV), whereas 21 of the 25 terms under *activities* are adjectives derived from action verb stems (IAV and DAV). This type of examination of the material thus suggests that the distinction between traits, states, and activities can be understood as a function of the category membership of the adjective from which the verb is derived, which in turn suggests that the distinctions addressed by Chaplin et al.'s (1988) research are predictable from the verb stem origin of the adjectives.

A further implication of this work can be seen in the manner in which descriptions of acts and states influence the likelihood of dispositional inferences. The second study I outlined briefly (Semin et al., 1989) demonstrates that the likelihood of inferring a trait from a behavioral statement was directly related to the nature of the verb category and independent of the frequency of occurrence of that behavior or state, the subjective confidence in making inferences, or its social desirability. That is, subjects were more likely to make dispositional inferences from IAV sentences to IAVADJ, than SAV sentences to SAVADJ, or than SV sentences to SVADJ. This type of inferential difference observed for different verb categories may have some implications for attribution theoretical issues (see Semin et al., 1989), but also for specific approaches in personality (e.g., Buss & Craik, 1983).

In this context, it is also worthwhile noting, in our earlier work (Semin & Fiedler, 1988) we found that adjectives that are more abstract than verbs show a low contextual dependence and a high conceptual interdependence in their use (see also Semin, 1990(a), 1992). This view converges with Gross, Fischer, and Miller's (1989) work on the organization of adjectival meanings, where they show that the meanings of predicative adjectives in English are organized in semantic memory by relations of antynomy and synonymy. We have already drawn out in some detail the implications of these considerations for the systematic distortion hypothesis (e.g., Shweder, 1982) in some earlier research (Semin & Fiedler, 1988; Semin & Greenslade, 1985).

Another implication of this work is that using either trait terms that vary as a function of their verb stem or nonderived adjectives, as well as using different verbs, can serve as distinct rhetorical devices in the description of people and groups. These rhetorical devices have different inferential implications for the receiver and about the manner in which the transmitter is conveying information. For instance, Maass, Arcuri, Salvi, and Semin (1989) examine the types of linguistic categories used in the description of ingroup and outgroup behaviors and the contribution of the differential use of concrete and abstract terms to the transmission and persistence of social stereotypes. The differential use of linguistic devices in maintaining actor-observer and egocentric biases in close personal relationships is demonstrated by Fiedler, Semin, and Koeppetsch (1991). Aside from providing new information on the cognitive properties of terms that we use in the interpersonal domain, the present approach permits a key towards unlocking the systematic features of a variety of interpersonal and

intergroup situations by identifying the differential language styles that characterize such situations.

More specifically, and with reference to IPT, one of the direct implications of the present work, along with specific elaborations derived from it (e.g., Semin, 1989) is that such theories are already mapped in language. What we generally refer to as IPT is in fact primarily observable and examinable in terms of the semantic properties and the relations between these properties. We know from the LCM (e.g., Semin & Fiedler, 1988) that inferences in this domain are mediated by the abstract semantic relations between the terms and in particular if this is with reference to adjectives (Semin & Greenslade, 1985). The point is that a broader part of IPT in everyday life is also descriptions of the actions and states of persons, and how these relate to the types of inferences we make that contain references to persons that are generalized across situations and time. These riddles address the issues of the verb-adjective relationships, and the present LCM provides some potential towards answering these questions. Or, in broader terms, the types of issues that can be addressed by the LCM refer to how people describe others, and, once they commit themselves to particular descriptions, which types of inferences they will draw or expect others to draw. Thus, in the context of LCM, the question becomes an examination of the strategic use of differential linguistic devices in the interperson domain both to convey and form impressions of persons. Thus, the emphasis shifts from an examination of static properties of language to an analysis of language in use, and the LCM does provide a quantitative entry to these types of problems.

REFERENCES

Abelson, R.P., & Kanouse, D.E. (1966). Subjective acceptance of verbal generalizations. In S. Feldman (Ed.), *Cognitive consistency: Motivational antecedents and behavioral consequences* (pp. 171–197). New York: Academic Press.

Allen, B.P., & Potkay, C.R. (19981). On the arbitrary distinction between states and traits. *Journal of Personality and Social Psychology, 41*, 916–928.

Allport, G.W., & Odbert, H.S. (1936). Trait names: A psycholexical study. *Psychological Monographs, 47* (1, Whole No. 211).

Block, J. (1989). Critique of the act frequency approach to personality. *Journal of Personality and Social Psychology, 56*, 234–245.

Brown, R., & Fish, D. (1983). The psychological causality implicit in language. *Cognition, 14*, 233–274.

Buss, D.M., & Craik, K.H. (1983). The act frequency approach to personality. *Psychological Review, 90*, 105–126.

Cantor, N., & Mischel, W. (1979). Prototypes in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 3–25). New York: Academic Press.

Caramazza, A., Grover, E., Garvey, C., & Yates, J. (1977). Comprehension of anaphoric pronouns. *Journal of Verbal Learning and Verbal Behavior, 16*, 601–609.

Chaplin, W.F., John, O., & Goldberg, L.R. (1988). Conceptions of states and traits: Dimensional attributes with ideals as prototypes. *Journal of Personality and Social Psychology, 54*, 541–557.

De Grada, L., & Mannetti, L. (1991). Interpersonal verbs: Causality and contextual dependence. *European Journal of Social Psychology, 21*, 429–444.

Duveen, G., Semin, G.R., & Fiedler, K. (1989). *The acquisition of the causality implicit in verbs*. Submitted for publication.

Fiedler, K., & Semin, G.R. (1988). On the causal information conveyed by different interpersonal verbs: The role of implicit sentence context. *Social Cognition, 6*, 21–39.

Fiedler, K., Semin, G.R., & Bolten, S. (1989). Language use and reification of social information: Top-down and bottom-up processing in person cognition. *European Journal of Social Psychology, 19*, 271–296.

Fiedler, K., Semin, G.R., & Koeppetsch, C. (1991). Language use and attributional biases in close personal relationships. *Personality and Social Psychology Bulletin, 17*, 147–155.

Franco, F., & Arcuri, L. (1990). Effect of semantic valence on implicit causality in verbs. *British Journal of Social Psychology, 29*, 161–170.

Gross, G., Fischer U., & Miller, G. (1989). The organization of adjectival meanings. *Journal of Memory and Language, 28*, 92–106.

Hampson, S.E., John, O., & Goldberg, L.R. (1986). Category breadth and hierarchical structure in personality: Studies of asymmetries in judgments of trait implications. *Journal of Personality and Social Psychology, 51*, 37–54.

Hastie, R. (1981). Schematic principles in human memory. In E.T. Higgins, C.P. Herman, & M.P. Zanna (Eds.), *Social cognition: The Ontario symposium* (Vol. 1, pp. 39–88). Hillsdale, NJ: Erlbaum.

Jones, E.E., & Davis, K.E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 219–266). New York: Academic Press.

Kelley, H.H. (1967). Attribution theory in social psychology. In D. Levine (Ed.), *Nebraska symposium on motivation* (pp. 192–238). Lincoln INE: University of Nebraska Press.

Kelley, H.H. (1972). The process of causal attribution. *American Psychologist, 28*, 107–128.

Maass, A., Arcuri, L., Salvi, D., & Semin, G.R. (1989). Language use in intergroup contexts. *Journal of Personality and Social Psychology, 57*, 981–993.

Mannetti, L., & Fasulo, F. (1990). Unpublished research, in preparation. University of Roma, La Sapienza.

McCrae, R.R., & Costa, P.T. (1987). Validation of the five factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81–90.

Miller, G., & Johnson-Laird, P. (1976). *Language and perception*. Cambridge, UK: Cambridge University Press.

Norman, W.T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology, 66*, 574–583.

Norman, W.T. (1967). *2800 personality trait descriptors: Normative operating charac-*

teristics for a university population. Ann Arbor, MI: University of Michigan. Department of Psychology.

Reeder, G.D. (1979). Context effects for attributions of ability. *Personality and Social Psychology Bulletin*, *5*, 65–68.

Reeder, G.D., & Brewer, M.B. (1979). A schematic model of dispositional attribution in interpersonal perception. *Psychological Review*, *86*, 61–79.

Reeder, G.D., Henderson, D.J., & Sullivan, J.J. (1982). From dispositions to behaviors. The flip side of attribution. *Journal of Research in Personality*, *16*, 355–375.

Reeder, G.E., Messick, D.M., & Van Avermaet, E. (1977). Dimensional asymmetry in attributional inference. *Journal of Experimental Social Psychology*, *13*, 46–57.

Rosenberg, S., & Sedlak, A. (1972). Structural representations of implicit personality theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 7, pp. 235–297). New York: Academic Press.

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social Psychology* (Vol. 10). New York: Academic Press.

Rothbart, M., & Park, B. (1986). On the confirmability and disconfirmability of trait concepts. *Journal of Personality and Social Psychology*, *50*, 131–142.

Semin, G.R. (1987). On the relationship between representation of theories in psychology and ordinary language. In W. Doise & S. Moscovici (Eds.), *Current issues in European social psychology* (Vol. 2). Cambridge: CUP.

Semin, G.R. (1989). The contribution of linguistic factors to attribute inferences and semantic similarity judgments. *European Journal of Social Psychology*, *19*, 85–100.

Semin, G.R. (1990a). Everyday assumptions, language and personality. In G. R. Semin & K. J. Gergen (Eds.), *Everyday understanding: Social and scientific implications*. London, CA: Sage.

Semin, G.R. (1990b). *On the origins and order of interpersonal verbs*. Paper given at the Deutsche Gesellschaft fuer Psychologie, Biannual Conference at the University of Kiel.

Semin, G.R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology*, *54*, 558–567.

Semin, G.R., & Fiedler, F. (1992). *The inferential properties of interpersonal verbs*. In G.R. Semin & K. Fiedler (Eds), *Language, social, cognition, and interaction*. London, CA: Sage.

Semin, G.R., Fiedler, F., Maass, A., & Arcuri, I. (1989). *The properties of derived trait terms and behavior trait inferences as a function of verb category membership*. Submitted for publication.

Semin, G.R., & Greenslade, L. (1985). Differential contributions of linguistic factors to memory based ratings: Systematizing the systematic distortion hypothesis. *Journal of Personality and Social Psychology*, *49*, 1713–1723.

Semin, G.R., & Krahe, B. (1987). Lay conceptions of personality: Eliciting tiers of scientific conception of personality. *European Journal of Social Psychology, 17*, 199–209

Semin, G.R., Rosch, E., Krolage, J., & Chassein, J. (1981). Alltagswissen als implizite

Basis fuer wissenschaftliche Persoenlichkeitstheorien. *Zeitschrift fuer Sozialpsychologie*, *12*, 233–242.

Semin, G.R. & Rubini, M. (1990). Unfolding the category of person by verbal abuse. *European Journal of Social Psychology*, *20*, 463–474.

Shweder, R. (1982). Fact and artifact in trait perception: The systematic distortion hypothesis. In B.A. Maher & W.B. Maher (Eds.), *Progress in personality research* (Vol. 1, pp 1–4). New York: JAI Press.

Tupes, E.C., & Christal, R.E. (1961). *Recurrent personality factors based on trait ratings* (USAF Tech. No. ASD-TR-61–97).

Wiggins, J.S., & Broughton, R. (1985). The interpersonal circle: A structural model for the integration of personality research. in R. Hogan & W.H. Jones (Eds.), *Perspectives on personality* (Vol. 1, pp. 1–48). Greenwich, CRT: JAI Press.

Wyer, R.S., & Srull, T. K. (1980). The processing of social information: A conceptual integration. In R. Hastie, T.M. Ostrom, E.B. Elbesen, R.S. Wyer, D.L. Hamilton, & D.E. Carlston (Eds.), *Person memory: The cognitive basis of social perception* (pp. 227–300). Hillsdale, NJ: Erlbaum.