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Language and Individual Differences:

THE SEARCH FOR UNIVERSALS IN PERSONALITY LEXICONS

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Virtually every scientist who has worked in the field of personality—certainly everyone who has tried to develop a personality theory—has had to grapple with one fundamental problem: Of the enormous variety of individual differences that we observe around us, which are the most important? For, we can look at a theory of personality as a specification of the *most important* individual differences and then as a model of how they come about.

The most promising of the empirical approaches to systematizing personality differences have been based on one critical assumption: *Those*

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individual differences that are of the most significance in the daily transactions of persons with each other will eventually become encoded into their language. The more important is such a difference, the more will people notice it and wish to talk of it, with the result that eventually they will invent a word for it. One can see this process exemplified in the introduction of other concepts into languages; for example, snow, of more importance to the Eskimo than to the English, has led to more terms in Eskimo dialects than in English. Presumably, the same process must occur for those nouns (e.g., *bigot, bully, fool, grouch, hick, loafer, miser, sucker*) and adjectives (e.g., *assertive, brave, energetic, honest, intelligent, responsible, sociable, sophisticated*) that are used to describe persons.

Moreover, this fundamental axiom has a highly significant corollary: *The more important is an individual difference in human transactions, the more languages will have a term for it.* In the strongest form of this corollary, we should find a *universal order of emergence* of the individual differences encoded into the set of all the world's languages.

LEXICAL UNIVERSALS

The search for cross-language regularities has recently been reviewed by Witkowski and Brown, who argued that "contemporary linguistics has focused upon language universals with the idea that these uniformities reflect the underlying nature of human cognition" (1978: 427). Indeed, the discovery of some lexical universals may be one of the most important developments in the social sciences in the past few decades. Since this exciting research is at the interface of cognitive psychology, linguistics, and anthropology, much of it has not yet been assimilated into the secondary literature of each discipline. Consequently, I will briefly review some of these recent findings; for more extensive discussions, see Clark and Clark (1978), Greenberg (1975, 1978), Lonner (1980), and Witkowski and Brown (1978).

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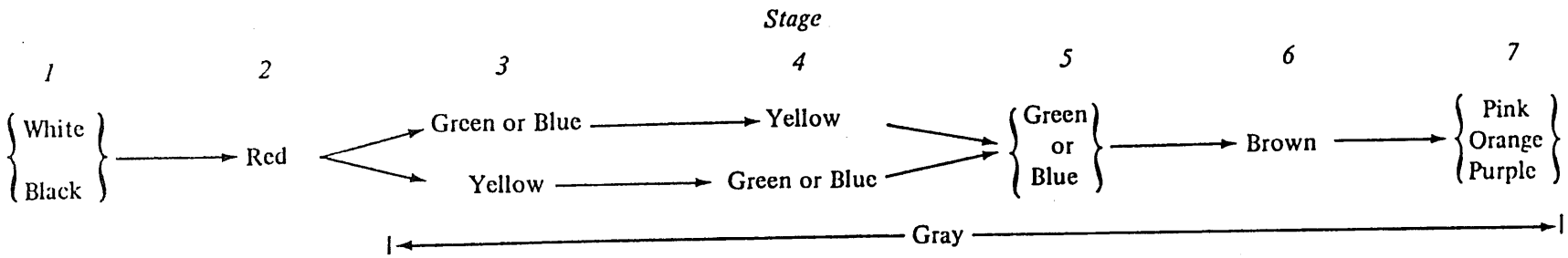
provided by Michael H. Bond, William F. Chaplin, Roy G. D'Andrade, Robyn M. Dawes, John M. Digman, Baruch Fischhoff, Donald W. Fiske, Lita M. Furby, Douglas L. Hintzman, Willem K.B. Hofstee, Robert Hogan, James Kelly, Adrienne Lehrer, Richard Littman, Walter J. Lonner, Ulric Neisser, Warren T. Norman, Charles E. Osgood, Dean Peabody, Leonard G. Rorer, Seymour Rosenberg, Norman D. Sundberg, Harry C. Triandis, Geoffrey White, Wayne A. Wickelgren, and Jerry S. Wiggins.

By far the most famous of these discoveries was that of a uniform order of emergence of color terms in the set of natural languages (Kay & McDaniel, 1978). For example, if a language has a term for the color *yellow,* it will also have a term for *red,* whereas some languages have a term for *red* and not (yet) for *yellow.* The original demonstration of these color regularities was provided by Berlin and Kay (1969), whose work led to the significant theoretical extensions of Rosch (e.g., Heider, 1972; Rosch, 1975a, 1975b, 1975c). Figure 1 presents a recent model for the temporal-evolutionary ordering of color terms in the natural languages (Witkowski & Brown, 1977).

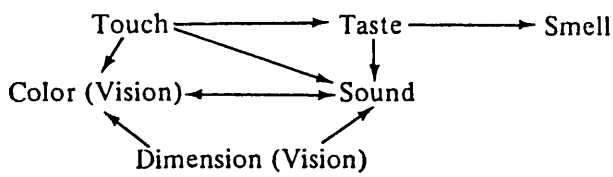
One of the most active arenas for seeking lexical universals is that of "folk biology," or common terms for botanical (e.g., *tree, grass, vine*) and zoological (e.g., *fish, bird, snake*) life forms. Using data from 105 languages, Brown (1977) demonstrated that five important botanical life forms are encoded in a highly regular manner. Similarly, there may be a universal lexical order of emergence of zoological life forms as well (Brown, 1979). While one could view the ordering of color terms in the natural languages as a direct consequence of the physics and physiology of the processes involved in human color vision, the discovery of such orders for biological life forms can hardly be explained in the same manner. As a result, these findings provide a compelling motive for the continued search for lexical universals in other domains. For an extensive discussion of the implications of the research in folk biology, see Berlin, Breedlove, and Raven (1973); for extensions to a number of nonbiological domains, see Brown et al. (1976), Clark and Clark (1978), and Lehrer (1974).

One such domain provides a logical bridge between the discovery of universal orders for such natural categories as colors, plants, and animals and the search for a universal order within the domain of personality-descriptive terms. Williams (1976) has argued that there may be a universal law governing the metaphorical transfer of adjectives from one sensory domain to another, and he has tested his model in an Indo-European language (English) and a non-Indo-European one (Japanese). Figure 2, an adaptation of Williams's model, indicates the few possible directions that adjectives do transfer out of the many directions that are possible. For example, if a Touch-modifier transfers, it may transfer to Tastes (e.g., *sharp* tastes), to Colors (e.g., *dull* colors), or to Sounds (e.g., *soft* sounds), but not to Dimensions or Smells. Taste-modifiers may transfer to Smells (e.g., *sour* smells) or to Sounds (e.g., *sweet* sounds), but not to Touch,



Note: This figure (adapted from Witkowski & Brown, 1977) is to be read as follows: (1) Most languages contain terms for white and black; (2) if a language contains three (or more) color terms, then it contains a term for red; (3) if a language contains four (or more) color terms, then it either contains a term for yellow or it contains one for green or blue; (4) if a language contains five (or more) color terms, then it contains a term for yellow, plus one for either green or blue; (5) if a language contains six (or more) color terms, then it contains terms for white, black, red, yellow, green, and blue; (6) if a language contains seven (or more) color terms, then it contains a term for brown; etc.

FIGURE 1 The Temporal Order in Which Languages Encode the Color Categories



Note: This figure (adapted from Williams, 1976) is to be read as follows: If an adjective metaphorically transfers from its earliest sensory meaning to another sensory modality, it will transfer only in the direction indicated by the arrows.

FIGURE 2 A Possible Universal Ordering for the Transfer of Synaesthetic Adjectives from One Modality to Another

Dimensions, or Colors. Dimension-modifiers may transfer to Colors (e.g., *flat* colors) or to Sounds (e.g., *deep* sounds), but not to Touch, Tastes, or Smells. Color-modifiers may transfer only to Sounds (e.g., *bright* sounds), and Sound-modifiers may transfer only to Colors (e.g., *quiet* colors). As Williams noted:

> Sensory words in English have systematically transferred from the physiologically least differentiating, most evolutionary primitive sensory modalities to the most differentiating, most advanced, but not vice versa. It should be emphasized that there is no intrinsic reason why this order should be observed. In a forced-choice test, 25 undergraduates displayed a high level of agreement (90%+) on the meaning of metaphors such as *loud heights* (high or low?), *sour blades* (sharp or dull?), and *quiet angles* (acute or obtuse?). Since such metaphors can be understood, there seems to be no principled reason for them not to develop. But except in poetry, they do not [1976: 464-465].

A more general theory of metaphorical transfer for adjectives has been proposed by Lehrer (1978). She has argued that for any set of words that are semantically related (by synonymy, antonymy, hyponymy, or whatever; Lyons, 1977), if one term transfers to another sematic field, then the other terms in the set are all available for extension to the second semantic field, regardless of their perceived similarity:

> This hypothesis allows us to state what semantic transfers we can expect to occur. It also shows that an adequate semantic analysis must not only describe meanings of individual lexical items, but

> must also show the structure of each word to other words in a semantic domain. For example, *cook, bake, boil, roast, fry,* and *grill* are cooking words, but *fry* and *grill* also have meanings in the domain of inflicting pain, punishment, or discomfort (e.g., The police *grilled* the suspect. The criminal will *fry* for his crime). The hypothesis predicts that other cooking words could also be used in this domain, and indeed, have been, as exemplified in the television series in which Dean Martin *roasts* various celebrities [1978: 96].

Lehrer (1978) tested this hypothesis with a large set of English terms for taste, smell, and feel, all of which are used by wine writers, oenologists, and/or ordinary wine drinkers to describe wines, although this use of each word is typically only a peripheral meaning. Lehrer concluded that:

> In examining semantic transfer—the transfer of words with a meaning in one domain to another—it is a mistake to look at all transfers taking place in the same way. Most likely, the first transfer will be the result of perceived similarity, association, or even synaesthesia. However, once this has happened, other words from the first domain can transfer, even though there is no similarity. This is probably why *cold* and *flat* acquired the meaning of *bland.* Only one member of an antonymous pair need have any perceived similarity, and only one member of a synonymous set need transfer. Other members of the lexical set are available for transfer and often do transfer [1978: 122].

Clearly, one of the most important types of semantic transfer is one to which both Williams and Lehrer alluded but did not study, namely, the transfer from a sensory modality (more concrete) to a personality description (more abstract). At least in English, if not in all large languages, the lexicon is filled with terms that have been transferred to personality from such modalities as Touch (e.g., *coarse, cold, cool, dull, hard, harsh, rough, sharp, smooth, soft, warm*), Taste (e.g., *bitter, bland, sour, sweet*), Color (e.g., *bright, brilliant, clear*), Dimension (e.g., *deep, shallow*), and Sound (e.g., *loud, quiet*). It is probable that the first terms to enter any personality-descriptive lexicon are those originally used for other purposes (see Asch, 1955, 1958). But, are there any regularities, any cross-language universals, in the manner in which such words transfer into the personality domain?

By far the most famous of the recent attempts to discover lexical universals is the 20-year program of research conducted by Osgood and his associates (Osgood, May, & Miron, 1975). Osgood has hypothesized that most of the "affective" meaning–the emotional aspects of the meaning–of all concepts can be viewed as an amalgamation of three basic dimensions: Evaluation, Potency, and Activity. Osgood's major technique for studying affective meaning is called the Semantic Differential: One takes a representative set of concepts, including common objects (e.g., *house, girl, meat, book, star,* and *cup*) as well as abstract concepts (e.g., *trust, success, danger, sympathy, progress, courage,* and *love*), and has native speakers rate the meaning of each of them on a set of seven-step scales, each anchored by bipolar adjectives (e.g., *warm* versus *cold, light* versus *dark*). Then, one correlates the adjectival scales across the set of concepts and factor analyzes that matrix of intercorrelations. Whenever a reasonably large and heterogeneous set of concepts (nouns) has been rated on a reasonably diverse set of adjectival scales, Osgood has found much the same three major factors: Evaluation (*bad-good*), Potency (*weak-strong*), and Activity (*passive-active*).

To test whether this structure might be a universal one, Osgood and an international team of colleagues have now studied over 20 different languages, including some that are quite distant linguistically. As subjects, the Osgood team has used 14 to 18-year-old males in urban high school settings. A common set of 100 simple English nouns are first translated into the language under study, and each is used by native subjects to elicit the first adjective that comes to mind. From the large number initially so elicited, a subset of 100 terms is selected on the grounds of frequency, diversity, and independence. For each of these, native subjects are asked to produce antonyms, from which a final set of 50 seven-step rating scales are constructed. Native subjects are then asked to rate each of the original set of 100 nouns on each of the 50 scales, and the correlations among the 50 scales across the 100 nouns are factor analyzed. From their extensive analyses, Osgood, May, and Miron concluded: "We feel that the theoretical purpose of this research has been achieved. We have been able to demonstrate conclusively that the three affective factors of meaning are truly pancultural–at least to the extent that our sample of some 21 language/culture communities is representative of all human societies" (1975: 190).

In the quest for the discovery of lexical universals, an important contribution has been provided indirectly by Dixon, a linguist. In an

analysis of a variety of small languages, Dixon (1977) inquired whether all languages contain the major grammatical classes of Noun, Verb, and Adjective, concluded that the Noun and Verb classes are universal whereas the Adjective class is not, and then analyzed the manner in which adjective-impoverished languages use nouns and/or verbs for adjectival functions. Dixon classified adjectives on semantic, syntactic, and morphological criteria into seven major types: (1) Dimension (e.g., *big, large, little, small; long, short; wide, narrow; thick, fat, thin*); (2) Color; (3) Other Physical Properties (a large class, including *hard, soft; heavy, light; rough, smooth; hot, cold; sweet* and *sour*); (4) Human Propensities (by far the largest class, including *jealous, happy, kind, clever, generous, cruel, rude,* and *proud*); (5) Age (e.g., *new, young, old*); (6) Value (e.g., *good, bad, proper, perfect, excellent, fine, delicious, atrocious, poor*); and (7) Speed (a small class, including *fast, quick,* and *slow*). Table 1 lists those adjectives from 20 languages with extremely small adjective classes (range 7 to 24) that are included in two or more lexicons.

One must be wary of interpreting the terms listed in Table 1 as those describing the most primitive or basic types of physical and/or individual differences, since each of these 20 languages includes a host of nouns and verbs that serve the same function as do adjectives in English. Moreover, one should not infer from this table that terms for which antonyms are not listed (e.g., *strong, female, beautiful, generous*) are not capable of being negated in those languages by some expression similar in function to the English word *not*. As far as we know, no one has ever investigated the Human Propensity class of adjectives, nouns, and verbs in a wide variety of languages, and until this is done we will not know which types of individual differences are most basic, and/or if there is a universal order for encoding these differences. In the words of Dixon:

> A lot can be learnt concerning the speakers of a language and the kind of life they lead from a study of the language's semantic structure. Members of the (deep) class Noun indicate the kinds of objects occurring in the speakers' environments. . . . Areas of concentration of vocabulary indicate objects or phenomena that are focal points of the community's life—well-known examples concern the Arabs' superfluity of terms for parts of the camel, Eskimos' terms for different kinds of snow, and so on. . . .
>
> All languages have words belonging to the main semantic types associated with the (deep) class Verb—MOTION, ACTION, GIVING,

TABLE 1 The Most Universal Adjectives? The English Translations of Adjectives from 20 Languages with *Very* Small Adjective Classes

Term	*Number of Languages*	*Adjectival Type*
large	20	Dimension
small	19	
short	15	Dimension
long	14	
new	15	Age
old	14	
bad	14	Value
good	13	
white	14	Color
black	13	
red	8	Color
raw (unripe)	7	Other Physical Property
heavy	5	Other Physical Property
light	5	
sharp	4	Other Physical Property
blunt	2	
thin	3	Dimension
thick	2	
hot	3	Other Physical Property
cold	2	
fierce/angry/wild	3	Human Propensity
strong	3	Human Propensity
female	3	Human Propensity
beautiful	3	Value
generous	2	Human Propensity
soft	2	Other Physical Property
wet	2	Other Physical Property
sour	2	Other Physical Property
whole	2	Other Physical Property

Note: This table, which has been prepared from Dixon (1977), lists all of the adjectives that are included in two or more of the 20 languages. In this set of languages, the number of adjectives included in each lexicon ranges from 7 to 24, with a mean of 13.

> SAYING, LIKING, and so on. Areas of vocabulary concentration here indicate types of actions that are important in the community. . . .
>
> Just as the nouns in a language give some idea of the relevant objects in the speaker's environment, and the verbs the important cultural actions, so the HUMAN PROPENSITY words give an idea of the mental attitudes of speakers of the language.
>
> *HUMAN PROPENSITY would certainly be the most difficult semantic type to investigate in depth and to make detailed generalisations about; but it would also be one of the most revealing [1977: 66-67; emphasis added].*

LANGUAGE AND PERSONALITY

Given the enormous importance of comparative research on the expression of individual differences in diverse languages, it is startling to realize how few systematic studies have yet been conducted. Indeed, only a few investigators have analyzed data from as many as a half dozen or more languages. Yet, those few who have panned this cross-cultural stream have found gold. For example, Murphy (1976) drew on the ethnographic literature, supplemented by her own field studies of Eskimos in northwest Alaska and the Yoruba tribes of rural tropical Nigeria, to ask whether one important type of individual difference, namely, mental illness, is universally recognized in the languages of diverse peoples. Murphy concluded that (1) the phenomenal processes of disturbed thought and behavior similar to schizophrenia are found in most (if not all) cultures and (2) they are sufficiently distinctive and noticeable that almost everywhere a name has been created for them. Moreover, Murphy concluded that:

> If one defines intolerance of mental illness as the use of confinement, restraint, or exclusion from the community (or allowing people to confine or exclude themselves), there does not appear to be a great deal of difference between Western and non-Western groups in intolerance of the mentally ill. Furthermore, there seems to be little that is distinctively cultural in the attitudes and actions directed toward the mentally ill, except in such matters as that an abandoned anthill could not be used as an asylum in the arctic or a barred igloo in the tropics. There is apparently a common range of possible responses to the mentally ill person, and the portion of the

> range brought to bear regarding a particular person is determined more by the nature of his behavior than by a preexisting cultural set to respond in a uniform way to whatever is labeled mental illness [1976: 1025].

While Murphy (1976) was hesitant about concluding that terms for anxiety and depression were also universal (see also Marsella, 1980), Morice (1978) has recently argued that they probably are. In an intensive analysis of the language of the Pintupi Aborigines of Central Australia, until recently palaeolithic hunter-gatherers, Morice found lexical categories for both anxiety and depression:

> The degree of verbal differentiation in the Pintupi language for the affects of anxiety and depression shows that Pintupi Aborigines experience a range of subjective feelings, from mild anxiety and depression to severe affective disorders. . . . This same degree of differentiation in the Pintupi verbal repertoire means that they also possess the ability to express and communicate their emotions, a fact questioned in the past by many transcultural psychiatrists [1978: 93].

Seemingly, then, one quite basic, if not universal, set of individual differences encoded into the natural languages involve distinctions between the normal and the insane (Draguns, 1980). Other candidates include the highly abstract dimensions of affective meaning (Evaluation, Potency, and Activity) transferred to the personality domain (see Kuusinen, 1969; Mehrabian, 1980; Tzeng, 1975; Warr & Haycock, 1970). And, finally, some additional candidates stem from those systematic analyses of self and peer ratings carried out initially in English (e.g., Cattell, 1947, 1957; Eysenck & Eysenck, 1969; Guilford, 1959, 1975; Norman, 1963; Wiggins, 1979), and now beginning to be extended to other languages as well (e.g., Bond, 1979; Bond et al., 1975; White, 1978, 1980). To these efforts we now must turn.

MODELS OF PERSONALITY STRUCTURE: SOME GENERAL CONSIDERATIONS

It is clear that languages differ from each other not so much in what they *can* convey, but rather in what they can *easily* convey. While it is naive to expect to find one-to-one translations for any single personality

descriptive term across all languages, there may be some individual differences of such critical import in human transactions that all languages permit speakers to convey that characteristic relatively easily. But, how should we look for such individual differences? To even begin this quest, we need to first consider some possible models of personality structure.

Discrete (Categorical) Versus Dimensional (Ordered)

In English, if not in most contemporary languages, persons can be described both by nouns (e.g., *cynic*) and by adjectives (e.g., *cynical*). The former involves a discrete or categorical classification, while the latter more easily permits the expression of degree or extent (e.g., James is (a) slightly, (b) somewhat, (c) quite, (d) very, or (e) extremely *cynical*). Languages differ in their ratios of personality nouns to adjectives, as well as in the types of individual differences encoded by each linguistic class. For example, in English there are far more personality adjectives than personality nouns; the distribution of personality nouns on the Evaluation continuum is markedly different than that for personality adjectives (a higher proportion of nouns than adjectives carry negative implications); and a far greater proportion of personality nouns than personality adjectives are colloquial or slang terms, perhaps because personality nouns are used most typically in oral communication and personality adjectives are used most typically in written communication (Goldberg, 1981).

When looking at the ways in which individual differences are encoded in different languages, we have to decide whether to use a typological model or a dimensional one. Are people to be fitted into types or categories, or are they to be ordered along continuous dimensions? In all probability a dimensional approach will prove more useful. Indeed, if one thinks of personality types—that is, discrete categories of people—there may be only one genuine typology in nature, namely, biological sex. Sex comes packaged in two brands—a male one and a female one—and while there is a tiny bit of overlap, nonetheless by and large people are well-differentiated. But, even when one considers other *physical* characteristics (e.g., eye or hair color), we observe orderly progressions rather than genuine types. Whatever kind of a structure we are going to use, it has to at least *permit* some ordering. Many languages contain terms which vary in their placement on the same dimension; in English, for example, the

four terms *stupid, dull, smart,* and *brilliant* certainly imply a continuum of intellect. That is, considering any potential model for individual differences, a dimensional approach will probably prove to be more tractable, as long as it permits categories or types as special cases.

Unipolarity Versus Bipolarity

Another general issue we must consider: Should the dimensions of individual differences be considered as if they were unipolar or bipolar? Is it more reasonable to view intelligence and stupidity as two separate dimensions or as a single bipolar one? In English at least, most adjectives can be negated by the addition of a prefix (e.g., *un-, non-, in-*) or a suffix (e.g., *-less*); indeed, in a variety of languages, the single most common response to an adjective in a word association task is an antonym (e.g., *sweet* → *sour, dry* → *wet*; Deese, 1965). Linguists as well as psychologists generally assume that the capacity to make bipolar contrasts is a fundamental aspect of linguistic competence. Two examples:

> The encoding priority . . . is due in part to the general human tendency to classify by means of *binary opposition.* This tendency is particularly apparent in the adjectival component of vocabularies. The oppositional characteristics of dimensional concepts such as height, width, depth, etc., are usually encoded by two terms, and only rarely are finer lexical distinctions carved out. This results in such familiar adjectival oppositions as *wide/narrow, deep/shallow, hard/soft, rough/smooth, sharp/blunt,* and so on [Witkowski & Brown, 1978: 435].

> A productivity-ranked and pruned list of 60-70 qualifiers was sent back to each community, where a small group of native speakers was asked to produce *opposites* for each term--again, with appropriately adapted instructions. . . . What is interesting here is that in *none* of the 28 language/culture communities where this stage has been reached—and this now includes several non-urban and/or non-literate groups--has any difficulty been experienced in eliciting qualifier-opposites. It would appear that the tendency to organize models of qualification in terms of polar opposition is yet another universal of human languages [Osgood, 1976: 77].

On the other hand, Dixon has argued that the Human Propensity class of adjectives differs from most other adjectival classes in their lack of clear bipolarity. In his words:

> HUMAN PROPENSITY adjectives--such as *jealous, loyal, merry*—do not appear to have clear (monomorphemic) complements or antonyms. . . . Yet they behave somewhat like members of antonym pairs, depending on milieu—a certain person could be described as relatively loyal, or as rather lacking in loyalty, according to the company he is in—and forming semantically proper comparatives. It is as if these adjectives specified an antonym dimension of which only one pole is named. A term like *jealous* describes certain human proclivities and is used relative to the human norm, the norm implying lack of the proclivities; it is not clear what the opposite of *jealous,* on the opposite side of the norm, could be. . . .
>
> A number of HUMAN PROPENSITY adjectives appear to be in almost antonymous relation: *happy/sad, cruel/kind, clever/stupid, generous/mean, proud/humble, rude/polite* and a few more; however speakers agree far less when asked to give the opposite of one of these terms, than they do in the case of . . . other terms. In fact each HUMAN PROPENSITY adjective is best considered as a singleton, individually specifying an antonym-like parameter. Some of the parameters—as in the pairs just mentioned—are *almost* opposites of each other. The lack of exact opposition is apparent from the triples *kind/unkind/cruel, polite/impolite/rude, happy/unhappy/sad. Unkind,* the antonym of *kind,* is not perfectly synonymous with *cruel* (and still less *unhappy* with *sad*) implying that *cruel* cannot be considered the antonym of *kind* (nor *sad* of *happy,* and so on) [1977: 34-35].

Seemingly, the implication of these arguments is that any model of individual differences must have the facility for handling antonymlike bipolarity, as well as the facility for permitting unipolar dimensions (see Bentler, 1969).

Orthogonal (Uncorrelated) Versus Oblique (Correlated)

Should those personality dimensions be orthogonal or oblique? That is, should the dimensions be construed as correlating with each other or should each be independent of all the others? Dimensions which are

mutually orthogonal are very lovely. While they are the nicest possible kind for prediction purposes, they are grossly unrealistic. For, in any natural language, there are terms to describe individual differences that are at varying levels of abstraction and/or at varying degrees of generality. An example from English: The terms *prompt* and *punctual* are far more specific than is the general term *conscientious*, which includes punctuality as well as a number of other characteristics. Moreover, the term *conscientious* is itself more specific than, say, a term like *reliable*, which may include conscientiousness, honesty, and perhaps intelligence. That is, within the English language there are differences in the kinds of words that we can apply to people, differences in their concreteness versus abstractness. This makes it look as if an optimal structure must be capable of unfolding in some kind of a hierarchical fashion, with very specific attributes being combined into ones which are more general, which in turn are combined into others which are yet more general, and so on up the branches of the inverted tree. This kind of structure implies oblique dimensions of personality.

Concrete (Specific) Versus Abstract (Global)

At what level of this molar-molecular hierarchy of individual differences can we expect to find lexical universals? Should we search for lexical counterparts to the English term *punctual*? Or *conscientious*? Or *reliable*? It seems unreasonableto assume that all the fine-grained details of individual differences are universally encoded in the natural languages. Rather, modern scientific work on cognitive processing (e.g., Rosch, 1975a, 1975b, 1975c) would suggest that a search for individual differences as expressed at some basic level (e.g., *chair/conscientiousness*)—a level that is neither too abstract (e.g., *furniture/reliability*) nor too specific (e.g., *rocking chair/punctuality*)—would be most likely to uncover universal characteristics (see Wiggins, 1980). Seemingly, then, if we are to find a universal order of emergence of individual differences into diverse lexicons, we must search at the right level of abstraction. Two dimensions (e.g., Wiggins, 1979, 1980) are probably too few (general); 20 to 30 dimensions (e.g., Cattell, 1957) are probably too many (specific). What is clear is that we must have some structure in mind before we can dare to test its cross-language robustness.

TOWARD A SYNTHESIS OF PERSONALITY DIMENSIONS

When we consider how individual differences are encoded in different natural languages, we are talking about semantics, the *meanings* of the words that we use to describe ourselves and other people. And so a logical place to begin our search for the universals of personality is to consider what is known about the meaning of words in general. As already noted, Osgood has argued that the "affective" meaning of all concepts can be viewed as an amalgamation of three basic dimensions—Evaluation, Potency, and Activity—and thus these three dimensions are logical places to start when we look at the meanings of the words used to describe people. But, when real people are rated on a representative set of bipolar adjectival scales, Potency and Activity turn out to be quite highly correlated (e.g., Kim & Rosenberg, 1980).

Figure 3 lists some of the bipolar adjectival scales which mark the three major dimensions of affective meaning, both for concepts in general and for people in particular. One can see why the Potency dimension would be correlated with both Activity and Evaluation when individuals are rated: *Brave, forceful,* and *independent* people are likely to be seen as more Active than are *cowardly, meek,* and *dependent* ones. If we combine Potency and Activity, we have a more general construct called "Dynamism" by Osgood and "Surgency" by Norman (following Cattell). The *surgent* individual is both *active* and *brave.* (The direct psychometric analog to Potency is an old concept in individual differences—namely, Dominance versus Submissiveness.)

The first person in psychology to take seriously the scientific task of constructing a personality taxonomy was Cattell, who began with a perusal of English personality-descriptive terms. Allport and Odbert (1936) catalogued about 18,000 such terms and divided them into four alphabetical lists, the first of which were those that in their judgment reflected stable "biophysical" traits. Of the approximately 4,500 trait terms, Cattell (1943) selected 171, which were then used by people to rate others whom they knew. On the basis of the correlations among those ratings, Cattell developed a set of 35 to 40 clusters of related terms and used those clusters as the basis for constructing rating scales for factor analyses of people's ratings of themselves and others.

The number of primary personality factors in Cattell's system is in the 20-to-30 range, of which the 16 most famous are included in his Sixteen

Factor	*Concepts in General*	*People*
Evaluation (E)	Bad - Good Dirty - Clean Worthless - Valuable	Insincere - Sincere Dishonest - Honest Unreliable - Reliable
Potency (P)	Weak - Strong Small - Large Light - Heavy	Cowardly - Brave Meek - Forceful Dependent - Independent
Activity (A)	Passive - Active Slow - Fast Cold - Hot	Passive - Active Apathetic - Energetic Sluggish - Rambunctious

FIGURE 3 Rating Scales Marking the Three Primary Factors in Osgood's Semantic Differential

I. Surgency

Talkative -Silent
Sociable - Reclusive
Adventurous - Cautious
Open - Secretive

II. Agreeableness

Good-natured - Irritable
Cooperative - Negativistic
Mild/Gentle - Headstrong
Not Jealous - Jealous

III. Conscientiousness

Responsible - Undependable
Scrupulous - Unscrupulous
Persevering - Quitting
Fussy/Tidy - Careless

IV. Emotional Stability

Calm - Anxious
Composed - Excitable
Not hypochondriacal - Hypochondriacal
Poised - Nervous/Tense

V. Culture

Intellectual - Unreflective/Narrow
Artistic - Nonartistic
Imaginative - Simple/Direct
Polished/Refined - Crude/Boorish

FIGURE 4 The Big Five: Norman (1963)

	0	I	II	III	IV	V
Osgood	Evaluation	Potency	Activity			
Kuusinen	Evaluation	Potency	Activity	[Tolerance]	[Conscien-tiousness]	[Self-con-fidence]	[Ration-ality]
Peabody	Evaluation	Assertiveness		Impulse Control (Tight-Loose)		
Leary	["Intensity"]	Dominance	Affiliation			
Wiggins		Dominance	Affiliation			
Cattell (2nd order)		Exvia	Cortertia	Superego Strength	Anxiety	Intelligence
Norman		Surgency	Agreeableness (Warmth)	Conscien-tiousness	Emotional Stability	Culture
Guilford (2nd order)		Social Activity	Paranoid Disposition	Introversion	Emotional Stability	
Eysenck		Psychoti-cism	Extroversion-Introversion		Neuroticism	
Buss & Plomin		Activity	Sociability	Impulsivity	Emotion-ality	
Block				Ego Control	Ego Resiliency	

FIGURE 5 Decoding Babel: Alternative Varieties of Structures for Personality Characteristics

Personality Factors Questionnaire (16PF). When his data were made available to others, however, virtually everyone who factored those data found only 5. The investigators who discovered these 5 factors were first Fiske (1949) and later Tupes and Christal (1961). However, since the most systematic work was subsequently done by Norman (1963), it is common now to refer to these factors as the Norman Five: Surgency (the fusion of Potency and Activity), Agreeableness (or Coldness versus Warmth), Conscientiousness, Emotional Stability, and Culture (a mixture of intellectual or cognitive aspects of individual differences, such as cultural sophistication, knowledge, and various aptitudes). Figure 4 lists abbreviated versions of the scales that loaded most highly on these five major factors, which by now have appeared repeatedly in analyses of both peer ratings and self ratings in a large number of different studies (see Borgatta, 1964; Digman & Takemoto-Chock, 1981).

Figure 5 includes the structural dimensions from a variety of personality theorists, aligned in a single framework. The "big five" factors provide the background for placing the major dimensions provided by Cattell and Guilford, both at the second-order level, and for a number of other investigators who have restricted their work to only a few dimensions (e.g., Eysenck, Peabody, Leary, Wiggins,[1] Block). For example, in the most recent version of Guilford's (1975) hierarchical structure of personality, at the second-order level, there are four concepts, which Guilford calls Social Activity, Paranoid Disposition, Introversion-Extroversion, and Emotional Stability. While the names obviously differ, these factors appear to be the direct equivalents of the first four of the five Norman factors.

THE ROBUSTNESS OF THE FIVE-FACTOR REPRESENTATION

While it is not possible at this early stage to provide compelling evidence for the correct positioning of each theorist on each dimension, it should be possible to argue the case that *any* model for structuring individual differences will have to encompass—at some level of abstraction—something like these "big five" dimensions. That is, this part of the model is not all will-of-the-wisp; we have here something reasonably solid and method resilient. For example, Norman sorted 1,431 English trait-descriptive adjectives into 75 categories, based solely on their similarity of meaning. One can think of these as bins into which he tossed similar terms: For example, in one bin he tossed words like *companionable*,

sociable, and *outgoing*—in all, nine such terms. If one asks people to describe themselves or to describe other people using those 1,431 terms, and one treats each bin as a scale, one can intercorrelate these scales across the subjects and factor the matrix of correlations.

How robust are these factors to procedural variations? Goldberg (1980) showed that it hardly matters what number of factors are extracted, since the loadings on the first five factors are always nearly the same. For example, in a five-factor solution, the Sociability scale had a factor loading on the first factor of .75; for six, it had a factor loading of .78; for seven, it was .79; for eight, it was .78 (the intermediate numbers are omitted here to save space); in a 13-factor solution, that loading was .82. Indeed, for 70 of the 75 scales, the factor on which that scale had its highest loading remained invariant across all solutions.

What is the best algorithm for use in factor analysis? Goldberg (1980) showed what happens when one uses every kind available in a popular computer program, two varieties of component analysis and three varieties of factor analysis. Once again, the procedure does not seem to affect the results. For example, using component analysis with a Varimax rotation, Sociability had a loading on the first factor of .79; it was .78 with a Quartimin (oblique) rotation; with traditional factor analysis (communalities in the main diagonal) it was .78 for a Varimax rotation, .77 for a Quartimin rotation, and .84 for Little Jiffy Mark-II (Kaiser's new orthoblique rotation). Clearly, there is something *to* this structure. It is not simply a matter of extracting a particular number of factors or using a particular type of rotational algorithm. These are data speaking for themselves.

As another example, 475 very common trait-descriptive adjectives were sorted into 131 tight synonym clusters. The terms in a cluster mean virtually the same thing and have much the same social desirability values. The results from factor analyses of the correlations among the scales, in two samples of peer ratings and two samples of self ratings, are presented in Goldberg (1980). Once again there were five very clear factors. For both peer ratings and self ratings, in two separate samples of each, analyzed in many different ways, the factors were virtually identical. The object of this demonstration is to prove that, at least at the level of those five dimensions, the results are remarkably method-resilient. Whether the data come from self reports or from descriptions of other people, whether based on one kind of rating scale or another, no matter what the method

for factor extraction or rotation, the results are much the same. Clearly, these five individual differences are compelling candidates for extensions into other languages.

TOWARD A UNIVERSAL REPRESENTATION OF INDIVIDUAL DIFFERENCES

Do I really believe that these five factors will turn out to be universally encoded in the natural languages? The most I would be willing to argue is that they are logical places to start our search for a universal order of emergence of personality terms. Clearly, a more complete structure must be hierarchical, encoding individual differences at various levels of generality versus specificity. The "big five" factors are highly general. Indeed, some scientists (e.g., Cattell) have argued that they are too general for most predictive purposes.

Nonetheless, even at this stage, they provide a framework for organizing the English personality lexicon, a framework that can now be tested with other languages. Seemingly, these dimensions focus on individual differences of enormous import in persons' transactions with each other. They suggest that those who have contributed to the English lexicon as it has evolved over time wished to know the answers to at least five types of questions about a stranger they were soon to meet: (1) Is X *active and dominant* or passive and submissive (Can I bully X or will X try to bully me)? (2) Is X *agreeable* (warm and pleasant) or disagreeable (cold and distant)? (3) Can I count on X (Is X *responsible and conscientious* or undependable and negligent)? (4) Is X *crazy* (unpredictable) or sane (stable)? (5) Is X *smart* or dumb (How easy will it be for me to teach X)?

Are these universal questions?

NOTE

1. In a brilliantly articulated article in the first volume of this series, Wiggins (1980) has argued for the utility of a circumplex model of personality structure. It is important for the reader to realize that such a circular structure will result from the combination of *any* two orthogonal bipolar factors. While Wiggins (1979, 1980) has

stressed the interpersonal primacy of two particular factors (Affiliation [e.g., *Cold-Warm*] and Power [e.g., *Submissive-Dominant*]), these are only the first two (Agreeableness and Surgency) of a more complete five-factor representation.

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