

THREE LANGUAGE VARIABLES IN COMMUNICATION RESEARCH: INTENSITY, IMMEDIACY, AND DIVERSITY

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A digital system such as language uniquely sustains propositional thought (Watzlawick, Beavin, & Jackson, 1967). For conceiving and then communicating a connection between, say, mass and energy or mice and men, a picture finally is *not* worth a thousand words. However, language expresses more than ideas. Effortlessly, automatically, receivers infer from speakers' language styles their attitudes, moods, and affiliations. Some evidence indicates that language in the form of connected discourse is an especially potent determinant of receivers' inferences about source (Triandis, Loh, & Levin, 1966).

Communication scholars have not neglected this nonpropositional, affective, analogic dimension of language. How will listeners rate the character of sources speaking French Canadian compared with those speaking English Canadian (Taylor & Gardner, 1969)? Will language high in intensity produce more attitude change than less intense language (Bowers, 1963)? Will low vocabulary diversity produce relatively negative judgments of source competence (Bradac, Konsky, & Davies, 1976)? Unfortunately, most such studies are not noteworthy for their theoretical grounding (cf. Giles & Powesland, 1975, p. 8), and they have resulted in little more than a proliferation of unintegrated data. Communication research has available only a

catalog of discrete, perhaps useful, but isolated and unpatterned findings.

To assist theory construction, we have reviewed a large body of empirical research on three important language variables in a search for pattern. In this paper we discuss the nature of language variables, offer 26 generalizations, each of which is supported by one or more studies, derive implications from these generalizations and consider possibilities for future work in this area.

THE NATURE OF LANGUAGE VARIABLES

Language is a system of sentences each of which comprises sounds (phonetic properties), denotative and connotative meaning (semantic properties), the relationship of sounds and meaning (syntactic properties), and force (pragmatic properties). From one perspective, important aspects of language are invariant. For example, presumably all native speakers of English have linguistic competence which tells them that the following string is ungrammatical and unacceptable—not English: "Sent the man a book gardens about his wife to a small city from Chicago near." Or, all languages apparently exhibit the Complex Noun Phrase Constraint (Ross, 1967), which prohibits strings like the following: "Some drivers hit pets which children often play in streets which are crowded with frequently."¹

From another perspective, many features of language are highly variable from individual to individual and from group to group. These are the features with which we are concerned. They occur in performed language, in actual utterances, rather

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than as abstract properties of the grammar of the language.

Variable phenomena provide a kind of information that invariant phenomena do not. As social animals, we generally can (and do) ignore safely that which is perfectly certain or predictable. But mutation, surprise, anomaly compels us to attend and explain. To make judgments, we must perceive differences. Campbell and Stanley (1966, p. 6) isolate this fact of cognitive existence when they write: "Basic to scientific evidence (and to all knowledge-diagnostic processes including the retina of the eye) is the process of comparison, of recording differences, or of contrast."

The evidence indicates that variations in virtually all the properties of language generate inferences in receivers. Phonological differences indicative of foreignness (accent) affect receivers' perceptions of source competence and message effectiveness (Mulac, Hanley, & Prigge, 1974). Pragmatically deficient (or deviant) utterances (A: Guess what? B: What? A: Chicken's butt.) produce judgments of source madness or badness (cf. Nofsinger, 1974). Though studies of dialect sometimes have confounded variations in lexicon, syntax, and phonology, some evidence indicates that both nonstandard lexicon and nonstandard syntax negatively affect receivers' evaluations of sources (Bochner & Bochner, 1973; Remillard, Tucker, & Bruck, 1973). Deviant but standard lexical variations also have a negative impact on receiver evaluations of sources (Bradac, Kinsky, & Davies, 1976), but variations in standard syntax (e.g., syntactic diversity) apparently have less evaluative effect, perhaps because syntactic information is not typically stored in long-term memory (Bradac, Davies, & Kinsky, 1976; Schlesinger, 1966).

The linguistic variations upon which we will train our sights are those in the lexicon. Lexical variations (*judicium verborum*) have been interesting to theorists of style for centuries, of course (Aristotle, 1932; Bede, 1962; Erasmus, 1963; Sherry, 1961), and contemporary communication scholars also have given a central role to this dimension of language (Burke, 1966; Duncan, 1968; Empson, 1966; Richards, 1964). More directly to the point, at least three types of lexical variation have been consis-

tently shown to affect receivers' reactions to source in empirical studies. These variations are standard, not deviant. Finally, words—the essential meaning components of language—are crucial elements in the communication process and in this role merit special scrutiny (cf. Orwell, 1949; Vick & Wood, 1969; Wood, Yamauchi, & Bradac, 1971).

VARIATIONS IN INTENSITY, IMMEDIACY, AND DIVERSITY:

TWENTY-SIX GENERALIZATIONS

The three lexical variables on which we focus are language intensity, verbal immediacy, and lexical diversity. Each of these linguistic features varies in normal communication as a function of alterations in the subjective states of communicators, and such variations affect communication outcomes.

Language Intensity

Of the three variables, language intensity has received the most attention, having generated more than twice as many studies as either verbal immediacy or lexical diversity. Most researchers have accepted Bowers' (1963, p. 345) definition of intensity as "the quality of language which indicates the degree to which the speaker's attitude toward a concept deviates from neutrality."

However, operationalizations of the conceptual definition have varied greatly across researchers, and have varied in ways that cast doubt on the extent to which findings can be generalized across studies.² Bowers (1963) and others who have used his messages or his methods (e.g., Carmichael & Cronkhite, 1965) had pretest subjects rate for intensity lists of words appropriate to the contexts in which they appeared. These included substantive words that could be value-laden as well as evaluative qualifiers. This method resulted in the manipulation of approximately 125 terms in each of his four 1,500-word messages, or a ratio of approximately .08 manipulated words to total words. Miller and Burgoon (1971) selected words from a pre-rated, out-of-context list consisting mostly of evaluative qualifiers. Their terms ranged from the most highly and positively intense "best of all" through the

neutral "neutral" to the most negatively intense "despise." Burgoon and Chase (1973) used "very bad" for high intensity, "bad" for moderate intensity, and "poor" for low intensity. Greenberg (1976) manipulated something that seems more akin to probability than to evaluation, inserting the word "sometimes" in his low-intensity messages, "always" in his high-intensity messages.

Greenberg aside, judgments on an absolute scale of intensity probably would not show that Burgoon and Chase's "very bad" is equivalent in negative affect to Bowers' "lethal," "fatal," and "devastating." Nor does Miller and Burgoon's "best of all" seem to achieve the same positive intensity as do Bowers' "superior," "brilliant," and "laudable." Miller and Burgoon have their sources "dislike extremely" or "despise," whereas Bowers has his speakers "condemn," "murder," "blunder," "pervert," and "prostitute."

These varying operationalizations should foreshadow problems in generalizing about language intensity. Nevertheless, in spite of an occasional anomaly, studies by different authors using different operationalizations have resulted in a number of rather consistent findings.

Generalization 1: Cognitive stress is inversely related to the language intensity of sources.

The first generalization is problematic on two counts. (1) The term "cognitive stress" has a number of operational referents ranging from anticipated audience disagreement to anticipated suicide. (2) Everyday experience indicates that the relationship between stress and intensity might be curvilinear, such that extremely low and extremely high levels of stress result in low intensity while moderate stress results in higher intensity. If, in fact, the relationship is curvilinear, experimental research probably has focused on the moderate to high stress segment of the curve.

Support for the generalization is consistent across several studies which range from laboratory experiments to content analyses of "real-world" messages. Franzwa (1969) found that subjects selected less intense words when preparing a message for a hostile audience (as opposed to a friendly one). Anticipating a hostile audience should have put

subjects in a state of cognitive stress on the basis of evaluation apprehension (cf. Bradac, Konsky, & Elliott, 1976). Furthermore, persons (presumably unstressed) encoding belief-congruent messages use more intense language than do persons (presumably stressed) encoding belief-discrepant messages (Burgoon & Miller, 1971). If writing apprehension is an indicator of cognitive stress for subjects given a writing assignment, then a study by Daly and Miller (1975), where high apprehensives produced lower intensity messages than did their low apprehensive counterparts, supports Generalization 1. Finally, Osgood and Walker (1959) found that genuine suicide notes exhibited lower language intensity than did bogus (pseudocide) notes produced in a role-playing situation.

Generalization 2: Language intensity is directly related to receivers' attributions of internality to sources.

Some studies suggest that intensity has particular effects which are largely independent of specific receiver characteristics, message types, and source attributes. In one such study, Bradac, Hosman, and Tardy (1978) had subjects judge the extent to which sources using high- and low-intensity language were generally internally or externally motivated. (Rotter, 1966, defines "high internals" as persons who believe that they can largely control their own destinies, whereas "high externals" believe that they can exercise little such control.) The results of the Bradac, Hosman, and Tardy study, where speakers employing intense language were judged as being higher in internality, support Generalization 2.

Generalization 3: Obscenity is inversely related to the amount of attitude change produced by messages (at least when the source is a male).

Generalization 4: Obscenity is inversely related to post-communication ratings of source competence.

Two studies, by Bostrom, Basehart, and Rossiter (1973) and by Mulac (1976), show the negative consequences of obscenity, a special form of intensity, expressed in Generalizations 3 and 4. The study by Bostrom et al. demonstrated that female sources using excretory, religious, or sexual obscenity obtained more attitude change than did

their male counterparts using obscene sexual terms. In the light of evidence indicating that women use (and are expected to use) relatively little obscenity (Kramer, 1974b), this finding seems anomalous. Also, the amount of attitude change produced by females in the obscenity conditions was not compared with that produced by messages to a control group (no obscenity), so it is unclear whether obscenity actually facilitates persuasion when used by female sources. Probably not.

Generalization 5: Language intensity of a nonobscene type in attitudinally discrepant messages is inversely related to postcommunication ratings of source competence.

Some studies (Infante, 1975; Burgoon, Jones, & Stewart, 1975) indicate that the negative effects of intensity on judgments of source competence are not confined to messages where the intensity is obscene. However, other studies (Mehrlay & McCroskey, 1970; McEwen & Greenberg, 1970) provide some evidence that Generalization 5 should be qualified in such a way that it applies only to messages that are attitudinally discrepant for receivers. Miller and Basehart (1969) obtained an inverse relationship between opinionated language in a discrepant message and postcommunication ratings of source trustworthiness, indicating that another important dimension of credibility is enhanced by low intensity when the message is discrepant. Finally, Miller and Lobe (1967) failed to support Generalization 5, finding no difference between high- and low-opinionation conditions for postcommunication judgments of competence.

Generalization 6: For highly aroused receivers (at least when the basis for arousal is irrelevant to the message), language intensity is inversely related to attitude change.

Some effects of intensity are mediated by particular receiver characteristics. Psychological research generally indicates that human beings (and other animals) reject stimuli that increase arousal or drive beyond an optimal level (Berlyne, 1974). At least two studies of intensity support this conclusion. Testing the proposition directly, Carmichael and Cronkhite (1965) showed that intensity had negative consequences for frustrated (but not for ego-

satisfied) subjects. Also, Burgoon, Jones, and Stewart (1975) obtained maximal attitude change from frightened subjects exposed to low-intensity language.

Generalization 7: Language intensity and initial receiver agreement with the proposition of a message interact in the production of attitude reinforcement or change in such a way that intensity enhances the effect of attitudinally congruent but inhibits the effect of attitudinally discrepant messages.

The effects of intensity depend to some extent on initial receiver agreement or disagreement with the proposition to be argued. A study by McEwen and Greenberg (1970) provides some evidence that highly intense language positively affects attitudes when, from the receiver's standpoint, the proposition is initially a neutral one. Similarly, and more clearly, Mehrley and McCroskey (1970) found that a neutral message containing opinionated rejection statements—a form of intense language where negative terms are directed at those who disagree—produced greater attitude change than did a neutral message containing nonopinionated language. This relationship between opinionatedness and attitude change was reversed when the message was attitudinally discrepant rather than neutral from receivers' viewpoints. Mild doubt is cast on this generalization by Infante (1975), who found marginally that an unjustifiably opinionated congruent speaker conferred less resistance to a subsequent counterattitudinal message than did a nonopinionated speaker.

Generalization 8: Language intensity in an initial message which supports receiver attitudes is inversely related to amount of attitude change produced by a subsequent persuasive attack of moderate intensity.

This very specific generalization is suggested by the results of a study (Burgoon & Chase, 1973) which examined the effects of messages designed to inoculate receivers against subsequent counterpersuasive messages. With regard to refutational messages, i.e., messages designed to inoculate receivers with counterarguments anticipating the arguments to be offered in a subsequent attack, the evidence is contradictory. Burgoon and Chase (1973) found that a refutational message which

matched the intensity level of a moderately intense subsequent attack was maximally effective in creating resistance to persuasion, whereas Chase and Kelly (1976) found that a low-intensity inoculation was generally superior in producing resistance.

Generalization 9: Language intensity and initial source credibility interact in the production of attitude change in such a way that intensity enhances the effect of credible but inhibits the effect of less credible sources.

Generalizations 9, 10, and 11 suggest that particular source characteristics affect responses to varying levels of language intensity. Three experiments manipulated initial perceptions of source credibility in conjunction with two levels of language intensity (Burgoon, Jones, & Stewart, 1975; Miller & Basehart, 1969; Miller & Lobe, 1967). These studies yielded similar outcomes that strongly support Generalization 9, though Bowers (1963) does not. Specifically, the studies supporting this generalization found that high-credible sources delivering attitudinally discrepant messages obtained more attitude change using high-intensity language than they obtained with low-intensity language.

Generalization 10: The relationship between initial source credibility, intensity, and attitude change is strengthened when receivers are high in need for approval.

Basehart (1971) exposed listeners who were divided on the basis of need for approval to high- and low-intensity messages delivered by sources who varied in initial credibility. His findings indicate that need for approval mediates to some extent the relationship asserted by Generalization 9.

Generalization 11: Language intensity and "maleness" interact in the production of attitude change in such a way that intensity (of a nonobscene type) enhances the effect of male but inhibits the effect of female sources.

We must apologize (though possibly we should not) for making gender a continuous variable. We do so for the sake of consistency in form. Generalization 11 is based on one study (Burgoon, Jones, & Stewart, 1975) that indicated more receiver tolerance for male sources using highly intense language

than for their female counterparts. This effect probably results from the violation of stereotypic expectations. Indeed, Kramer (1974a, p. 52) has noted that popular stereotypes depict women's speech as "weaker and less effective than the speech of men." Generalization 11 is almost certainly bound to a particular set of transitory social circumstances in a way that the other generalizations are not. Yet, if stereotypes of gender are related to power, then Generalization 11 in combination with Generalizations 9 and 10 suggests an interesting possibility: that intensity and *social power* interact in the production of attitude change. Possibly, a person perceived as powerful should use intense (powerful) language while a powerless person should not (but cf. Bowers, 1974).

Generalization 12: Language intensity and target participation in encoding are positively related to attitude change.

Subjects in the studies related to Generalization 12 typically choose words from a preselected list so that they are both sources and receivers. We have coined the word "target" to refer to them. These experiments (Burgoon & King, 1975; Burgoon & Miller, 1971) found that when targets are induced to encode attitudinally discrepant messages in high-intensity language they shift attitudes more in the direction advocated than if they are allowed to use low-intensity language.

Generalization 13: Language intensity and initial agreement with the proposition of the message interact in the production of receiver attributions in such a way that intensity in congruent messages enhances but in discrepant messages inhibits attributions of source similarity.

Generalization 13 is the final one having to do with language intensity. It is supported by a particular line of reasoning as well as by empirical results. Heider's (1958) balance theory suggests that a source who intensely supports a deeply held receiver attitude will be judged more similar to a receiver than will a source who supports such an attitude only weakly. A person "like me" would not damn my deeply held attitude object by linguistically faint praise. One experiment (McEwen & Greenberg, 1969) indicates that a source's language

intensity can in fact influence receivers' psychological balance in this manner, that "[s]omeone I like should like something I like to the same degree that I do" (p. 259). A study by Miller and Basehart (1969) also has implications for Generalization 13. When a trusted source encoded a discrepant message in highly opinionated language, postcommunication ratings of trustworthiness decreased more than when he encoded the message in language lower in opinionation. If perceived trustworthiness is associated with perceptions of similarity (Bourhis, Giles, & Tajfel, 1973; Wheelless, 1978), this finding is consistent with Generalization 13.

Verbal Immediacy

Immediacy refers to the degree to which a source associates himself/herself with the topics of a message; that is, immediacy is the degree to which a source approaches or avoids a topic (Wiener & Mehrabian, 1967). The following examples are arranged in order of descending immediacy:

1. We certainly will enjoy the party.
2. You and I certainly will enjoy the party.
3. I think you and I may enjoy the party.
4. I think you and I may enjoy the food at that party.
5. I think you must enjoy the beef wellington at that party with me.

In each successive proposition, the source decreases his/her association with his/her feelings, receivers, or the event. Differences in immediacy (not all of which are illustrated) result from variations in adjectives (the vs. that), verb tense (present vs. past), order of occurrence of references in a sequence (earlier vs. later), implied voluntarism (want vs. must), mutuality (Dave and I do X vs. I do X with Dave) and probability (Bob and I will vs. Bob and I may) (cf. Mehrabian, 1967).

Presumably, decreases in immediacy are directly associated with decreases in expression of liking for the topics being discussed.

Generalization 14: Positive affect on the part of a source toward the topics of a message is directly related to verbal immediacy.

Rather consistent support for Generalization 14 comes from a number of experiments (Anthony, 1974; Feinberg, 1971; Gottlieb, Wiener, & Mehrabian, 1967; Hess & Gossett, 1974; Mehrabian & Wiener, 1966). In one study, for example (Mehrabian & Wiener, 1966), subjects in one condition imagined that they were writing a message to a well-liked other and in a second condition that the target was a disliked other. As predicted, the liked target elicited messages exhibiting higher immediacy.

Generalization 15: Cognitive stress on the part of a source is inversely related to verbal immediacy.

Greenberg and Tannenbaum (1962) indirectly support Generalization 15 with their finding that writers in a stressful condition (journalism students who were given the impression that their program was in danger from administrators) used fewer first-person pronouns than did others writing on the same topic who had no reason to feel stressful. Conville (1975) obtained an almost perfect linear inverse relationship between anxiety score and immediacy level. A final example is Hart's (1976) analysis showing that Richard M. Nixon used language that was lower in immediacy when he was communicating in relatively uncomfortable (for him) situations.

Generalization 16: Verbal immediacy is directly related to receiver attributions of positiveness of source affect.

Not only does positive affect (Generalization 14) produce immediacy, but this relationship is accurately perceived by receivers. Substantial evidence indicates that persons perceive high immediacy as a sign of positive affect, as Wiener and Mehrabian's theory (1967) suggests that they should (Mehrabian, 1966, 1967a, 1967b).

Generalization 17: Verbal immediacy is directly related to receiver judgments of source competence.

Generalization 18: Verbal immediacy is directly related to receiver judgments of source character.

Generalizations 17 and 18 are supported by Conville's (1975) study of the relationships between immediacy and judgments of source credibility.

Generalization 19: Verbal immediacy interacts with initial receiver agreement with the proposition of the message in the production of receiver attributions in such a way that immediacy in congruent messages enhances but in discrepant messages inhibits attributions of source similarity.

The reasoning underlying Generalization 19 is similar to that invoked for Generalization 13. Simply expressed, it says that a receiver will perceive a source to be similar to himself/herself to the extent that the source, through such mechanisms as verbal immediacy, indicates likes and dislikes similar to those of the receiver (Heider, 1958).

Lexical Diversity

Language intensity and verbal immediacy are conceptually linked to communicator affect in a way that lexical diversity, at least manifestly, is not. Most of the work on diversity has been done by psychologists and speech pathologists with clinical applications in mind.³ Recently, however, Bradac, Courtright, Schmidt, and Davies (1976), Bradac, Davies, and Konsky (1976), Bradac, Konsky, and Davies (1976), Bradac, Davies, and Courtright (1977), and Bradac, Desmond, and Murdock (1977) have related this variable to a number of message outcomes. Lexical diversity refers to the manifest range of a source's vocabulary. This range can be quantified in the form of a type-token ratio: the number of different words in a message (types) divided by the total number of words (tokens). Normally, a mean segmental type-token ratio—the average ratio of types to tokens in samples of 25, 50, or 100 words—is used. The mean segmental ratio is useful for comparing the diversity level of messages which differ in length, for the simple ratio is artifactually affected by the number of words in a message: usually, the type-token ratio decreases as message length increases because of the redundancy that exists in all languages.

Generalization 20: Cognitive stress on the part of a source is inversely related to lexical diversity.

Several researchers have subjected persons, often in interview situations, to moderately stressful conditions and then have observed the effect of this

manipulation on lexical diversity. Höweler (1972), for example, instructed interviewers to be verbally aggressive, and she found that respondents exhibited drastically lowered diversity compared to respondents in a control condition. Several studies (Kasl & Mahl, 1965; Mahl, 1956; Miller, 1964) have shown that increases in anxiety produce increases in the repetition of words, lowering the type-token ratio. Daly (1977) indirectly supported Generalization 20 in a study where persons high in writing apprehension produced fewer words, fewer uncommon words, and fewer different uncommon words than did persons not apprehensive about writing. Daly did not find a difference in type-token ratio between apprehensive and nonapprehensive subjects, but this could well be because he failed to compensate for message length by using a mean segmental type-token ratio. Since the nonapprehensive subjects produced longer messages, this methodological lapse would have worked against the prediction expressed in Generalization 20. Nevertheless, we offer the generalization somewhat tentatively, for some evidence indicates that communicators who habitually use high diversity actually increase on that variable under moderate stress (Bradac, Konsky, & Elliott, 1976). This qualifying result is predicted by Hull-Spence drive theory (Hull, 1943; Spence, 1956) and by social facilitation theory (Zajonc, 1965), both of which assert that arousal facilitates the production of habitual responses. As with Generalization 1, although we propose a linear relationship, we recognize the possibility of curvilinearity, so that, congruent with the Duffy-Malmö inverted "U" hypothesis (Duffy, 1962; Malmö, 1966), extremely low and extremely high levels of stress might result in low lexical diversity, while moderate stress levels might result in higher diversity.

Generalization 21: Lexical diversity is directly related to receiver judgments of source competence.

Generalization 22: Lexical diversity is directly related to receiver judgments of source socioeconomic status.

Generalization 23: Lexical diversity is directly related to receiver judgments of message effectiveness.

Generalization 24: Lexical diversity is inversely related to receiver judgments of source anxiety.

Generalizations 21, 22, 23 and 24 are derived from a series of studies (Bradac, Courtright, Schmidt, & Davies, 1976; Bradac, Davies, & Konsky, 1976; Bradac, Konsky, & Davies, 1976; Bradac, Davies, & Courtright, 1977; Bradac, Desmond, & Murdock, 1977) in which lexical diversity was treated as an independent variable with potential communicative consequences. Without exception, the studies support the generalizations.

Generalization 25: The effects of diversity are strengthened when a source is high in ascribed status.

In the Bradac, Courtright, Schmidt, and Davies (1976) study, initial perceptions of speaker status (high vs. low) and extent of lexical diversity in the message were manipulated orthogonally in a two-factor design. The result, which supports Generalization 25, was interpreted as indicating that college students, at least, expect highly diverse language from high status speakers and that such speakers are "rewarded" for fulfilling and "punished" for violating that expectation.

Generalization 26: Lexical diversity is directly related to receiver attributions of source similarity.

The Bradac, Desmond, and Murdock (1977) study compared the effects of three diversity levels on listener judgments. The most novel result was that listeners perceived both moderate- and high-diversity sources as more similar to themselves than they did low-diversity sources. Specifically, subjects hearing a relatively redundant message were less likely to agree with the statement: "The speaker thinks like me."

THE GENERALIZATIONS AS A SET: SOME IMPLICATIONS AND ILLUSTRATIONS

Relationships among some of the generalizations merit comment at this point. The relatively large set of generalizations for intensity offers some interesting predictions. Generalizations 1 and 6 suggest that in stressful situations—situations in which both source and receivers are highly aroused but the arousal is irrelevant to the message—persuasive messages, at least so far as their intensity is concerned, are likely to succeed. This is so because in

such situations sources are likely to use low-intensity language, and low-intensity language is what aroused receivers want to hear. Generalizations 5 and 9 suggest that an initially credible source who uses high-intensity language will succeed in changing attitudes toward propositions but at the same time will damage his/her credibility, at least on its competence dimension. This counterintuitive outcome is compatible with general predictions from Osgood and Tannenbaum's (1955) congruity theory. More inclusively, Generalizations 6, 7, 9, 11, and 13 identify a situation in which a persuasive message should be most ineffective: a female source, initially low in credibility, delivers an intense message opposing a position held by her audience, the members of which are highly aroused. Conversely, a credible male should be quite effective when he delivers an intense message supporting a position held by his relatively nonaroused audience.

Four variables are common to the generalizations for intensity, immediacy, and diversity: (1) cognitive stress on the part of the speaker, (2) receiver judgment of competence, (3) receiver judgment of source similarity, and (4) message effectiveness (attitude reinforcement or change, judgment of message effectiveness). These variables can be used to predict outcomes in situations where sources are delivering supportive or discrepant messages.

A source delivering a message supporting audience attitudes under conditions of stress will exhibit low intensity and low diversity (G1, G20). The message's immediacy level will be relatively low as a result of stress (G15), though the source's positive affect will compensate somewhat for the dampening effect of stress (G14). Still, immediacy will be lower in this situation than in the low-stress situation described later in this section. The low levels of the three lexical variables will produce audience judgments of low competence (G17, G21) and low similarity (G13, G19, G26). Low intensity may work against low immediacy and diversity to raise the competence judgment (G5), but we can plausibly argue that the competence judgment will not be enhanced by low intensity in a supportive message, (cf. Mehrley & McCroskey, 1970; McEwen & Greenberg, 1970). Low competence and low simi-

larity will work against attitude reinforcement, though their effects on attitude may differ from case to case (cf. Simons, Moyer, & Berkowitz, 1970). The message in this situation, in short, will be relatively ineffective. This analysis suggests that Eugene McCarthy delivering his pro-counterculture speech to protestors during the 1968 Democratic convention in Chicago probably was ineffective. It was, of course, largely a supportive message delivered by a stressful source (due to fatigue, tear gas, harassment, etc.). More generally, a parent comforting a teenaged offspring following a marijuana bust should fail, as should a minister consoling a newly widowed parishioner.

A stressful source attacking a position held by receivers will exhibit low intensity and low diversity (G1, G20). Immediacy will be lower than in the low-stress situations to be described subsequently. Low intensity will produce a judgment of high competence (G5), but low diversity will produce an opposite judgment (G21). Low immediacy, like low diversity, should lower judgments of competence (G17). Low diversity will lead to an attribution of low similarity (G26), but low intensity and immediacy in this situation should overcome that effect (G13, G19). To the extent that perceptions of at least moderate similarity and competence exist, attitude change should be facilitated. The positive connection between a low-intensity discrepant message and attitude change is supported by Bowers (1963). This suggests that a flustered Mayor Daley's comments in support of the convention and of mainstream values may have been relatively *effective* in modifying the attitudes of *protestors* in 1968, largely as a result of increased perceived similarity.

Some research makes this assertion seem less ridiculous than it appears at first glance. Receivers with negative attitudes toward a source may shift attitudes dramatically in a favorable direction following an initial exposure to the source's message (Brooks & Scheidel, 1968). Subjects in the study who were initially negative toward Malcolm X became much more positive following exposure to a 30-second section of his 1962 speech to students at Cornell College in Iowa. This effect came about presumably because his moderate language violated

negative expectations (cf. Houck & Bowers, 1969). Mayor Daley, then, may have seemed surprisingly moderate and less dissimilar than anticipated.

Following a marijuana bust, a shaken parent supporting a conservative attitude toward the substance may succeed in modifying an adolescent's attitudes. A doctor arguing for the necessity of immediate surgery generally will persuade his/her reluctant patient.

A relaxed source will deliver a supportive message that is high in intensity, immediacy, and diversity (G1, G15, G20). This combination will produce judgments of high competence (G17, G21) and high similarity (G13, G19, G26) which will serve to reinforce effectively the attitudes expressed in the message. The effect of high intensity in a supportive message on judgments of competence is not clear, but it may be positive (cf. McCroskey & Mehrley, 1970; McEwen & Greenberg, 1970). Jimmy Carter chatting with his cabinet at breakfast is bound to succeed in reinforcing allegiance to the new populism. Similarly the late Hubert Humphrey talking to the students at Macalester College about the benefits of civil rights legislation found himself in a nearly ideal rhetorical situation. More generally, a bartender reinforcing his/her client's decision to stay on the wagon will have one less inebriate to deal with that evening.

In an unstressful situation, a source attacking a position held by his/her audience will exhibit high intensity, high immediacy, and high diversity (G1, G15, G20). The intense language will produce judgments of low competence (G5), though the diversity level may counteract that judgment (G21). The effect of high immediacy in a discrepant message is not completely clear for judgments of competence, but we speculate that it will be negative in this situation. High diversity will produce a judgment of high similarity (G26), but this should be more than overcome by the negative effects of immediacy and intensity (G13, G19). To the extent that the source is perceived to be incompetent and dissimilar, attitude change will be reduced. Bowers (1963) supports the connection between a high-intensity discrepant attack and little attitude change. George Wallace addressing an orderly group of pro-busing black students will be ineffective, as-

suming that Wallace does not experience stress in the situation. A parent will fail to alter an offspring's strong fondness for science fiction movies, assuming that other worlds are not a stressful source of contention for the two.

POSSIBILITIES AND DESIDERATA

As indicated in the previous section, some of the generalizations for the three lexical variables can be integrated in meaningful ways. Patterns are suggested which describe interesting, even counterintuitive, outcomes. A sense of explanation can be dimly felt lurking behind the patterns: stress causes low diversity which in turn causes judgments of low similarity and low competence which serve to reduce attitude change, etc. A preliminary mediating mechanism is suggested for the relationship between a communicator's cognitive state and message effectiveness. This mechanism has as a primary component lexical variation.

An important question at this point is: How important is lexical variation in the determination of message outcomes? Or in more technical terms: How much variance in attitude change, for example, is explained by intensity, immediacy, and diversity? The research to this point generally has not addressed this sort of question. There are, however, a few exceptions which indicate that lexical variation has at least a moderate impact upon judgments of communicators and their messages. For example, multivariate R^2 s in the studies on diversity ranged between .29 and .49 (Bradac, Davies, Courtright, Desmond, & Murdock, 1977), and Triandis, Loh, and Levin (1966) found that quality of spoken English accounted for over 75% of the variance in evaluations of a communicator, whereas communicator race, beliefs about civil rights, and dress accounted for .2%, 12.8%, and .5%, respectively. It would be very useful for studies to compare the effect magnitudes of the three lexical variables with those of content variables, e.g., argument strength or, in an interpersonal context, valence of disclosure. Equally useful would be a comparison of the relative effect magnitudes of intensity, immediacy, and diversity. Our discussion of the generalizations assumes that the three lexical variables contribute equally to variation in judgments of communicator similarity, for example. This is a necessary assumption

at this point, but it may be incorrect. A single study could manipulate levels of intensity, immediacy, and diversity orthogonally to determine their relative impact upon message outcomes.

This issue of precise determination can be raised from a different standpoint. Most of the studies underlying the generalizations exhibit a potential common flaw. As we indicated earlier for intensity, researchers have rarely operationalized this concept in any precise way relative to the operationalizations of other researchers. To a lesser extent, the same methodological criticism can be leveled at research on verbal immediacy and lexical diversity. This failure to agree on operational definitions has three important consequences: (1) Within levels of a given variable, wide fluctuations may exist from study to study, such that one researcher's "high" level may be in another's "low" range. (2) Degrees of effect are not amenable to analysis. (3) Effects that are apparently linear may in fact be curvilinear. The generalizations assume linearity in the relationship between independent and dependent variables. This necessary assumption is based upon the results of studies which typically use a two-level (high vs. low) strategy. The linear results of such studies may be to some extent artifactual of the design.

Another strategy which will aid in the correct assessment of the effects of lexical variables is the inclusion of communication context as a variable in the research design. A few studies (e.g., Bradac, Courtright, Schmidt, & Davies, 1976; Burgoon, Jones, & Stewart, 1975) show that the effects of lexical variables can be *reversed* as the role of communicator changes (male to female, high status to low status, etc.). As a result of socialization, persons develop expectations that particular types of persons will use particular language styles in particular situations (Hall, 1966; Joos, 1967). Violation or fulfillment of linguistic expectations is a very general variable which may well be at the heart of evaluative reactions to lexical variations. This notion should be explored increasingly in research (cf. Bradac, Konsky, & Davies, 1976).

NOTES

1. We thank Larry W. Martin for generating the strange strings.
2. Some of the ideas contained in this section emerged

from our discussions with Nancy Lea Evans, a graduate student at the University of Iowa before her death in December 1974.

3. We have excluded from our discussion research on pathological aspects of diversity, e.g., aphasia (Wachal & Spreen, 1973). In accordance with the psychological focus established in our sections on intensity and immediacy, we have also excluded the large number of studies on sociological determinants of diversity (e.g., Bernstein, 1971; Robinson, 1965). An important claim made in the sociological literature is that socioeconomic status is inversely related to the diversity level of communicators. However, a recent study indicates that socioeconomic status in fact may not be a direct determinant of lexical diversity or vocabulary richness (Sankoff & Lessard, 1975).

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