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A PARADIGM FOR THE STUDY OF COMMUNICATIVE STYLE:
THEORY, MEASUREMENT, AND A RESEARCH APPLICATION

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A PARADIGM FOR THE STUDY OF COMMUNICATIVE STYLE: THEORY, MEASUREMENT, AND A RESEARCH APPLICATION

By

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ABSTRACT

A PARADIGM FOR THE STUDY OF COMMUNICATIVE STYLE: THEORY, MEASUREMENT, AND A RESEARCH APPLICATION

By

David Randall Brandt

The study of communication content and its structure has a counterpart in the investigation of communicative style. Research on communicative style focuses on how actors use language and gesture in social contexts; it focuses less on what an individual says, per se, and more on how s/he says it.

This thesis attempts to develop a paradigm for the study of communicative style which builds upon the work of scholars and students from psychotherapy, social psychology, linguistics, semiotics, and communication, to name a few disciplines. Research findings, conceptual problems, and methodological problems characteristic of many previous approaches to stylistic inquiry are considered. Subsequently, an attempt is made to develop and demonstrate the scientifc utility of an observational framework for stylistic inquiry, particularly as it pertains to communication in face-to-face settings. Meta-methodologically, the importance of seeking a balance between theoretic precision and social intelligibility is stressed. It is argued that, to achieve social generalizability, the framework must take into account the normative and behavioral referents of the members of a social system under study. It is also suggested, however, that

the approach must incorporate measurement procedures which satisfy the requirements of objectivization, relativization, empirical verifiability, reliability, and discriminatory sensitivity, in order to be useful for scientific inquiry.

In attempting to develop an observational framework which satisfies the preceding requirements, a series of initial interactions between strangers were videotaped and served as stimuli to be observed and scaled. Observers were given very general definitions of a set of stylistic attributes, and were asked to collaborate and consensually generate a set of empirical referents for each attribute. Once a common conceptual and empirical frame of reference was established, observers underwent initial practice sessions in which they viewed a sample of interactants and made ordinal judgements of each attribute, as they perceived it to be manifested by the various interactants observed. This stage of preparation was followed by a second series of practice sessions in which observers made direct magnitude estimates of displayed levels of each attribute, relative to a numerical standard of 100, which corresponded to the "average level of (a given stylistic attribute) displayed by most persons in an initial interaction with a stranger." Subsequently, the rating of actual stimulus tapes was conducted, and the data obtained from this stage of the research were analyzed to determine reliability, precision, and empirical verifiability.

The results of the initial research indicated that raters' estimates were generally reliable, precise and empirically

verifiable. These results paved the way for an application of the observational procedures in a study of the relation between communicative style and perceived interpersonal attractiveness and effectiveness.

The results of the research application indicate that there are at least two distinct communicative styles, one of which is related primarily to percieved social attractiveness and communicative effectiveness, and the other of which is primarily related to perceived task attractiveness.

The final chapter of this thesis provides a discussion and summary of the entire research. Specific sections are devoted to (1) the available evidence pertaining to the scientific utility of the observational framework, (2) the results of the research application, (3) the implications of the findings for future stylistic inquiry, and (4) limitations and reservations concerning this research.

Accepted by the faculty of the Department of Communication, College of Communication Arts, Michigan State University, in partial fulfillment of the requirements for the Doctor of Philosophy degree.

Gerald R. Miller

Director of Dissertation

Guidance Committee: Gerald R. Miller, Chairman

William A. Donohue

Joseph Woelfel

William D. Crano

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This dissertation is dedicated to a most remarkable and special lady, my grandmother, Mrs. Mary Louise Pfister.

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I would like to express my gratitude to the persons who provided support and inspiration, of various sorts, throughout the completion of this project.

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Finally, I wish to express my thanks to my mother and father, and other members of my family, who did not always understand what I was doing in graduate school, but who never failed to tell others how proud they were that I was doing it!

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CHAPTER ONE

INTRODUCTION AND OVERVIEW

The study of communication content and its structure has a counterpart in the investigation of communicative style. Research on communicative style focuses on how actors use language and gesture in social contexts; it focuses less on what an individual says, per se, and more on how s/he says it. Even a cursory review of the social science literature reveals that a concern for the nature and social consequences of interpersonal communicative styles is shared by scholars from a number of disciplines, including psychiatry, psychology, sociolinguistics, and communication.

That stylistic inquiry is concerned with how individuals use language and gesture implies that both verbal and nonverbal behaviors are relevant in designing and executing empirical studies of communicative style, particularly within the context of human, face-to-face interaction. Further, such behaviors are probably best seen as complementary in supplying information to interactants. Given that the conceptualization and measurement of phenomena are inextricably connected, any conception of communicative style which views verbal and nonverbal behaviors as complementary requires that its corresponding method of

measurement reflect this complementarity. Thus, communicative style is conceptualized here as a set of anchored attributes, in terms of which the verbal and nonverbal behaviors of interactants may be typified and differentiated. This thesis attempts to develop a paradigm for the study of communicative style which is consistent with the preceding conceptualization.[1]

The Problem

Considerable attention has been devoted recently to the proliferation of meta-theoretic and meta-methodological debates in communication and other social science disciplines. In fact, a recent issue of Communication Quarterly (Winter, 1977) is exclusively devoted to a symposium on alternative models for communication theory and research. Although methodological and theoretic pluralism should probably not be discouraged in a discipline as pre-paradigmatic (Kuhn, 1970) as the field of communication, we must keep in mind that applying different conceptions and methods of observation to the "same" phenomenon will likely yield different outcomes, thus creating confusion as to the "objective" character of the phenomenon (Woelfel, 1978). As such confusion persists, consensus regarding a conceptual and epistemic frame of reference will continue to elude communication scholars. This, in turn, will likely inhibit the inter-subjective verification of observations of communicative events, and hence, theory-building in our discipline.

The value of considering a scientific discipline in terms of its success in developing a paradigm for inquiry has been discussed by Rossiter (1977):

> To the extent that a community is paradigmatic, it has achieved a level of maturity, which is related to social organization and scientific productivity. Scientific communities generally do move from immaturity to maturity, disorganization to organization, and from being aparadigmatic to paradigmatic. Increased organization and maturity tend to accelerate the rate of scientific production by the community (p.71).

The development of a methodological framework for the precise description of phenomena is an important step toward building a paradigm in any discipline. Hawes (1977) argues that most "mature" sciences began with extensive descriptions. The importance of this process of description has been underscored by Dubin (1969), who notes:

> In every discipline, but particularly in its early stages of development, purely descriptive research is indispensible. Descriptive research is the stuff of which the mind of man, the theorist, develops the units that compose his theories. The more adequate the description, the greater is the likelihood that the units derived from the description will be useful in subsequent theory building (p.85).

When one traces the growth of the physical sciences, s/he notes that a crucial step in that growth process was the establishment of a framework for the description of phenomena. Born (1962) identifies three principles associated with this framework. The first he calls

objectivization, which aims at "making observations as independent of the individual observer as possible" (p.2). The second he calls relativization, which suggests that the meaning or definition of a concept can only be determined through its relation to some standard, or "relative to the standpoint of the observer" (p.2). Empirical verifiability is the third principle, which demands the elimination of the unobservable from "that which is to be called scientific knowledge" (p.3).

Development and adherence to the preceding principles has expedited the establishment of a common epistemic and conceptual frame of reference among physical scientists, as well as consensus regarding which concepts, structures, and observations should be considered "real." This is not to suggest that the physical sciences are free from controversy. The development of paradigmatic principles has, however, led to increased research productivity and scientific achievement.

This thesis is predicated on the assumption that the development of a common framework for observing and recording observations is a necessary step in the growth and maturity of a science of human communication. This further assumes that a science of human communication is possible, and that communication scientists can benefit from the example set by their counterparts in the physical sciences. There are scholars who claim that imitation of the physical sciences has dominated social science research, and that

it has, by and large, proven unfruitful. With few exceptions, however, it is difficult to demonstrate that the "imitations" actually resemble the imitated (Woelfel, 1978). In particular, one is hard-pressed to identify measurement systems in communication, psychology, and sociology which adhere to the principles of objectivization, relativization, and empirical verifiability outlined above. This lack of similitude will become more apparent when we examine some previous approaches to the measurement of communicative style. The point is that, in the absence of evidence that social scientists have successfully practiced the principles of scientific description provided by physical scientists, it is difficult to claim that the method of science has been adequately tested in relation to social phenomena; the question of whether human communication is beyond the scope of scientific inquiry remains an open one.

It has already been suggested that the study of what people say has its complement in the study of how they say it. This assertion alone does not warrant the claim that communicative style should be explicated and developed as a cardinal variable in communication research. Consider, however, that, particularly when it is inconsistent with verbal content, the nonverbal component of communicative behavior often overrides the former as a basis of meaning or interpretation (Mehrabian, 1971; Hymes, 1974). Consider, also, that an entire discipline, sociolinguistics,

has been built around exploring the interrelations among speech performance, social structure, and social differentiation (Grimshaw, 1973). Finally, consider the growing corpus of literature which focuses specifically on interactive or communicative style (e.g., Ring & Wallston, 1968; Ring, Braginsky & Braginsky, 1966; Giles & Powesland, 1975; Norton, 1977, 1978; Norton & Pettegrew, 1977; Norton & Warnick, 1976; Norton & Miller, 1975; Miller, 1977; Pettegrew, 1977, 1978; Brandt, in press). Taken together, these considerations suggest that communicative style is a significant and pervasive component of social interaction. Further, to conceptualize communicative style as a set of attributes in terms of which the verbal and nonverbal behaviors of individuals may be typified is consistent with Berger and Luckmann's (1967) assertion that the "social reality of everyday life is apprehended in a continuum of typifications," and that "social structure is the sum total of these typifications" (p.33). Such a conceptualization also lays the foundation for the development of a precise method of describing individual communicative styles through the quantification of stylistic attributes. Given the preceding, the purpose of this thesis can now be stated more formally: This thesis proposes a paradigm or model for the study of communicative style in face-to-face interaction; an attempt is made to outline, develop, and apply a precise method for observing and analyzing style in relation to its social contexts.

Overview

This chapter introduces the reader to the area of inquiry, provides a rationale for such inquiry, and provides a general overview of the contents of the thesis.

Chapter Two reviews the literature on communicative style. Special attention is devoted to the conceptualization of style presented by Norton (1978), as it appears to represent the most ambitious attempt yet to develop a holistic communicator style construct. Research findings, conceptual problems, and methodological problems pertaining to Norton's style construct are subsequently discussed. The chapter concludes with a discussion of steps toward refining the conceptualization and measurement of communicative style undertaken in this research.

Chapter Three attempts to develop an exemplar for the empirical assessment of interactive or communicative style. A theory and principles of measurement are presented. Proceeding from a number of extant conceptions of social behavior, including attribution theory, symbolic interactionism, learning theory, linguistics, and sociolinguistics, it is argued that the average level of a given stylistic attribute (e.g., attentiveness) displayed by "most persons" in a given situation, serves as a benchmark in relation to which the communicative conduct of an individual is assessed. It is further argued that transforming this social system of comparison from a vernacular to a quantitative one should render it useful for scientific description, provided the

requirements of precision, reliability, objectivization, relativization, and empirical verifiability are satisfied. A direct magnitude estimation procedure (Torgerson, 1958; Hamblin, 1974; Shinn, 1974) by which the stylistic attributes were scaled is described. Also, procedures by which observers were prepared to apply the proposed method to the precise typification and differentiation of individual styles are discussed.

Chapter Four presents data pertaining to the reliability, precision, and empirical verifiability of the procedures developed herein.

Chapter Five addresses a specific question to which the model developed here was applied; a study of the relation between communicative style and social perceptions of interpersonal attractiveness and communicative effectiveness is described. Some relevant literature on communicative competence is reviewed. An operationalization of perceived competence is offered. Subsequently, an experiment designed to investigate the relation between communicative style and communicative competence is outlined. Finally, the results of the experiment are presented.

Chapter Six provides a discussion and summary of the work presented in the thesis. Specific sections are devoted to (1) the available evidence pertaining to the utility of the measurement system developed here, (2) the results pertaining to the relation between communicative style and perceived attractiveness and communicative effectiveness,

(3) the implications of the findings for future communication inquiry, and (4) problems and limitations of this research. The final chapter concludes with a summary of the entire thesis.

Summary

This chapter was designed to introduce the reader to the problem being investigated, to provide a rationale for such investigation, and to provide an overview of the contents of this thesis. Communicative style was conceptually defined as a set of anchored attributes in terms of which the verbal and nonverbal behaviors of individuals might be typified and differentiated. The importance of devising a descriptive framework for social constructs such as communicative style was stressed, particularly with regard to the development of a science of human communication. Finally, a brief description of the purpose and scope of each chapter of the thesis was presented.

FOOTNOTES

[1] Masterman (1970) found that Kuhn (1970) uses the term "paradigm" in at least twenty-two different senses, ranging from "a concrete scientific achievement" to a "characteristic set of beliefs and preconceptions" (pp. 39-42). Rossiter (1977) furnishes the following precis of Kuhn's conception of a paradigm: "A paradigm is a world view about how theoretic work should be done in a particular subject area which is shared by those who actually do theoretic work in that area. It includes agreements about: assumptions about the nature of the phenomenon about which the theory is being built; variables which are most important for study to understand the phenomenon about which the theory is being built; and acceptable methods for supporting assertions about the phenomenon about which the theory is being built" (p.70).

The term "paradigm" is used here to denote a conceptual and epistemic model for empirical inquiry, whose principles are explicated in such a way that other scientists and scholars can readily identify and apply or replicate them. As such, this conception of a paradigm is strongly rooted in operational philosophy (Rapoport, 1953).

CHAPTER TWO

LITERATURE REVIEW AND CRITIQUE

The purpose of this chapter is to provide an overview of the literature on communicative style. A number of linguistic, sociolinguistic, and psychological approaches to style are reviewed and critiqued. Special attention is devoted to the work of Norton and his associates toward the development of a holistic communicator style construct. The conceptual domain of that construct, its origins, previous empirical studies, and conceptual and methodological problems are discussed. Finally, the chapter outlines some steps undertaken here to refine the conceptual and methodological framework for stylistic inquiry.

Previous Research

In one sense, the study of interactive or communicative style is not entirely novel. Previous studies have explored means by which interactive behavior might be characterized (Bales, 1970) and/or very general styles identified (Joos, 1959; Ring, Braginsky & Braginsky, 1966). Research has also examined the effects of various individual verbal and nonverbal cues on perceived communicative effectiveness, interpersonal attraction, and impression formation (Mehrabian, 1967, 1969; Argyle & Kendon, 1967; Lowe & Goldstein, 1970; Holstein, Goldstein & Bem,

1971; Leginsky & Izzett, 1973; Pacanowsky & Fink, 1976). Typical findings indicate that some individual expressive behaviors are significantly correlated with certain perceptions of and/or liking for a communicator. Most of these studies, however, tend to focus on isolated behaviors, neglecting a holistic consideration of verbal and nonverbal behaviors in relation to a general communicative style construct. As for the studies which have attempted to identify and explore general communicative styles, a number of conceptual and methodological problems can be cited. Careful examination of some of these studies should highlight some of the problems. Therefore, let us turn to some previous approaches to the study of communicative style in psychology, linguistics, and sociolinguistics.

A Psychological Approach

An early attempt to identify general communicative performance styles is reflected in the work of Ring and his associates. Ring, Braginsky, and Braginsky (1966), focusing on actor-related sources of variance in interpersonal behavior, defined the concept performance style as "an individual's characteristic mode of interaction with others" (p.205). These researchers proposed a typology of three performance styles based on three specific actor attributes: motivation, knowledge, and skill. The three performance styles, labelled p, r, and c, were presumed to represent "fundamental and qualitatively different styles of interaction with others" (Ring & Wallston, 1968; 147). According

to this typology, the performance style p is characterized by a preference to avoid interpersonal contexts which call for role enactment, a general lack of social agility required for successful performance-giving, and a deficiency in knowledge of the role-demands appropriate to a variety of social settings (Ring, et al., 1966; 208). The performance style r is characterized by skill in interpersonal relations, a somewhat Machiavellian motivational orientation, and a knowledge of how to exploit social situations and others for personal gain (p.212). The performance style c is typified by a high degree of behavior adaptability to situational cues, a strong need or motivation for social approval, and an increased sensitivity to the conventional script demands of a gamut of social situations (p.215). The performance styles r and c are very similar, except for the motivation of the actor to give good social performances; the r is motivated by perceived personal gain, whereas the c is motivated by a need for social approval or confirmation (p.215).

To measure these performance styles, a 55-item, "true-false" test, called the Performance Style Test (PST) was constructed (Ring & Wallston, 1968). Typical items include statements like "I can fit pretty easily with any group," "I like to conform to custom and to avoid doing things that people I respect might consider unconventional," and "I can usually get people to do what I want" (Ring & Wallston, 1968; 150-151).

Typifications of individuals as "social chameleons,"

"social buffoons," or "Machiavellians" are generally prealent in the vernacular of everyday social intercourse. It was noted in Chapter One, however, that a scientifically useful framework for the description of individual communicative styles should fulfill the requirements of objectivization, relativization, empirical verifiability, reliability, and precision. It is possible to question the utility of the preceding approach for failure to meet a number of these requirements. First, the PST fails to meet the requirement of objectivization, since measurement is subject-centered (Torgerson, 1958; 49) and only an individual's self-assessment is taken into account; assessments by and attempts at subjective verification among several observers are not taken into account.

It is also difficult to empirically verify the styles identified or "measured" by the PST, since no epistemic frame of reference is explicated. Thus, the question of <u>how</u> a communicator behaviorally signals to others that s/he "likes to conform to custom" cannot be addressed empirically.

Finally, both conceptually and methodologically, the approach to communicative style developed by Ring and his associates lacks precision. The three styles which comprise the typology are so vague and few in number as to provide little information about the individuals which are classified. This shortcoming can be attributed, in part, to the fact that Ring, <u>et al.</u>'s approach is a classificatory one. As Carnap (1966) has noted, however, even though

classificatory information is inherently less precise than comparative or quantitative information, the use of increasingly precise classificatory systems facilitates increased precision in the placement and differentiation of objects and events, and thus, yields more information about them. This also applies to the precision of the symbol set or scaling procedure used to report comparisons of objects or events which are placed in a given class (p.51). While the use of a dichotomous scale (e.g., "true-false" scale) may be appropriate for some judgment or measurement tasks (e.g., "measuring" verdict in an empirical investigation of juridic decision-making), its use in attempting to differentiate a potentially vast range of communicators and their respective styles is, at best, highly questionable.

Beyond the problems previously cited, it should be noted that the approach of Ring and his associates is admittedly aimed at identifying interpersonal and motivational orientations of individuals as a basis for typifying "characteristic modes of interaction with others." As such, this approach focuses less on an individual's verbal and nonverbal behaviors, and more on his/her psychological orientation to interaction. Since this thesis is aimed at developing a framework for stylistic inquiry by which <u>behaviors</u> may be typified, and given the preceding criticisms, the approach of Ring and his associates must be rejected as inadequate for our purposes.

An alternative approach to stylistic inquiry is

reflected in the work of a number of linguists. In the next section, we will examine a linguistic approach to the study of communicative style.

A Linguistic Approach

An attempt will not be made here to outline the theory and method of stylistic analysis in linguistics; others (e.g., Hymes, 1974) have addressed the task with considerably more energy and expertise than can be mustered by this writer. Suffice it to say that linguistic studies of communicative style tend to focus primarily on linguistic structure or the grammatical and phraseological elements of language behavior in relation to social class, topical, situational, and relational variables.

An example of a linguistic approach to the study of communicative style is reflected in the work of Joos (1959). Joos has pointed out that, for different types of encounters, persons adopt different linguistic styles or modes of language choice and sequencing. He distinguishes between intimate, casual-personal, social-consultative, formal and frozen linguistic styles, and provides some description of their differences. For example, casual style is contrasted with consultative style, in that the former is characterized by ellipses in grammatical construction and the use of slang, and no attempt is made (as in consultative style) to provide background information pertaining to the topic(s) of conversation. Both casual and consultative styles differ from intimate style, where there is no reference to public

information, but where speakers use language to define and regulate their relationship (Joos, 1959; 109-112).

The work of Joos (1959) is significant in that it points to the influence of topical, situational, and relational variables on an actor's choice and sequencing of language. The absence of an attempt to integrate such verbal choices with nonverbal behaviors is a primary weakness in his approach. Indeed, Joos (1959) makes it the specific condition of stylistic analysis that it crosscut the usual grammatical comparmentalizations (pp.112-113). As Hymes (1974) has noted, however, "Joos did not follow up his conception with any indication of an empirical approach to the identification and analysis of styles. It has been left for scholars working within a sociolinguistic approach (Gumperz and Ervin-Tripp) to do this. Much more remains to be done" (p.178).

The typology of styles proposed by Joos (1959), therefore, is inadequate for the purpose of developing a model for stylistic inquiry which is consistent with our conceptualization of communicative style. As verbal and nonverbal behaviors are viewed as complementary and inextricably linked, they warrant simultaneous and integrated empirical consideration.

A Sociolinguistic Approach

Sociolinguistics is said to be concerned with both the structure of language and its performance by users of the

language, in relation to social structure and social differentiation (Grimshaw, 1973). Recently, Giles and Powesland (1975) have proposed what they term a "social psychological model of speech diversity; they propose and attempt to develop an accomodation model of speech style based largely on the work of attribution theorists such as Kelley (1973) and Jones and Davis (1965). In introducing the reader to their purpose, Giles and Powesland state that:

> General appearance, facial expressions, and gestures provide useful clues as to what sort of person we are dealing with. What he says to us, whether it is directly biographical or not, and whether we accept it at face value or not, tells us a great deal about him. The manner in which he speaks can also be used as a basis of judgment, and it is with this source of information that this book is mainly concerned (p.1).

That they are concerned with the manner in which persons use language, in relation to social evaluation and response, suggests that Giles and Powesland's focus is probably best characterized as sociolinguistic.

The accomodation model proposed by Giles and Powesland rests on the assumption that a person can elicit more favorable interpersonal evaluations from others by reducing dissimilarities between them. To accomplish this, speakers often "adapt or accomodate their speech towards that of their interlocutors...at least one member of an interactive dyad tends to adopt the speech patterns of the person to whom he is talking" (Giles & Powesland, 1975; 155-156). Giles and Powesland term such accommodative changes in interactive

behavior "convergent" behavior, whereas attempts to maintain or modify one's speech behavior to increase interpersonal dissimilarity is termed "divergent" behavior. According to Giles and Powesland, "speech convergence is a strategy of identification with the speech patterns of an individual internal to the social interaction, whereas speech divergence may be regarded as a strategy of identification with regard to the linguistic norms of some reference group external to the immediate situation" (p.156, italics in the original). In attempting to elicit favorable impressions or evaluations from others, a speech "accommodator" undergoes the following process:

> There is a dyad consisting of speakers A and B. Assume that A wishes to gain B's approval. A then: (1) samples B's speech and (i) draws inferences as the personality characteristics of B, (ii) assumes that B values and approves of such characteristics, (iii) assumes that B will approve of him (A) to the extent that he (A) displays similar characteristics, and (2) chooses from his speech repertoire patterns of speech which project characteristics of which B is assumed to approve (p.158).

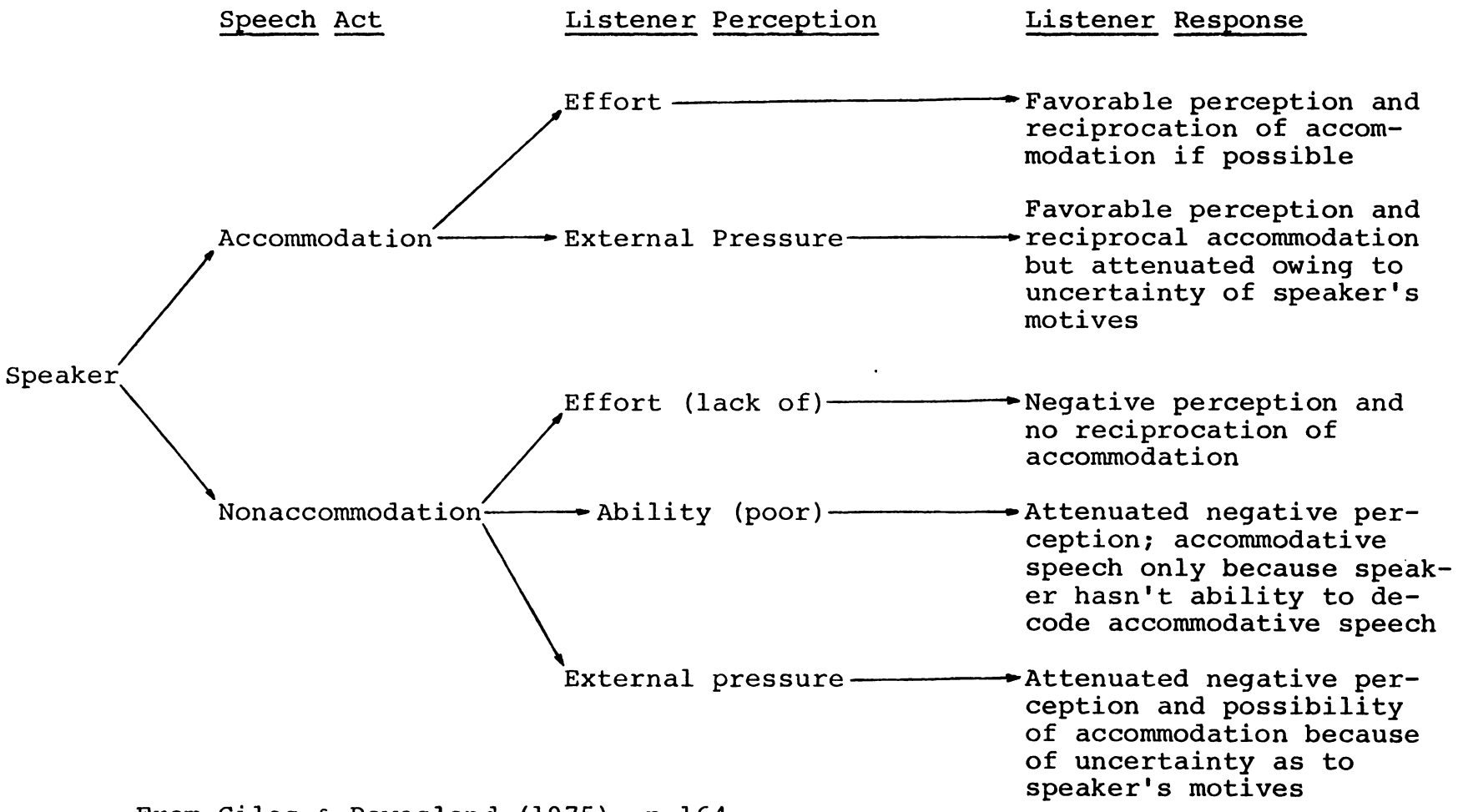
Figure 1 displays the accommodation model of speech style proposed by Giles and Powesland (1975). Based on the implications of attribution theory, the model suggests that the accommodation is likely to foster favorable speaker evaluation and induce reciprocal accommodation, while non-accommodation is likely to foster a relatively unfavorable speaker evaluation and induce the listener to maintain his regular speech style. However, when this behavior is

attributed to a lack of language ability or to external pressures, rather than to a lack of effort on the part of the speaker, then qualifications have to be made by the listener and impressions formed are not so negative (pp. 164-165).

The model proposed by Giles and Powesland is both provocative and empirically testable. Indeed, the authors provide considerable evidence that accommodative changes take place in language choice and speech accent (i.e., in verbal and paralinguistic behaviors) of individual interlocutors. At least two weaknesses in their approach may, however, be identified. First, while they claim that "facial expressions and gestures provide useful clues as to what sort of person we are dealing with" (p.1), Giles and Powesland choose to focus on the purely verbal and paralinguistic features of communicative style, and fail to account for other nonverbal or coverbal aspects of behavior. Thus, while they offer a descriptive framework for stylistic inquiry which is more in accordance with the kind developed here, the approach of Giles and Powesland falls short of the mark for failure to capture some of the more pervasive features of nonverbal interactive behavior. This may be attributable to their concern for <u>speech</u> rather than <u>communicative</u> style. Regardless, the inclusion of additional kinesic and facial cues seems required in order to develop a holistic and descriptively robust framework for the empirical assessment of communicative style.

FIGURE 1

Giles and Powesland's Accommodation Model of Speech Style



From Giles & Powesland (1975), p.164

A second weakness in the approach of Giles and Powesland, and one which it shares with some of the approaches previously examined, is a general failure to specify an epistemic frame of reference for determining accommodative versus nonaccommodative shifts. How is convergence of speech accent detected? How is divergence likewise detected? This information is largely missing from Giles and Powesland's discussion, and the need for its explication, so that other scientists and scholars may empirically test the predictions of the accommodation model, seems sufficiently clear.

The preceding review is by no means exhaustive, but it is generally representative of approaches to the study of communicative style from various disciplinary perspectives. More recently, an ambitious attempt to develop and operationalize a holistic and comprehensive communicator style construct has been undertaken by Norton and his associates, and considerable attention shall be devoted to this work in the next section.

Norton's Communicator Style Construct

The foundations of the communicator style construct are presented in Norton (1978), though research utilizing the construct and its measurement, the Communicator Style Measure (CSM), has been going on since 1974. Briefly, Norton conceptualizes a communicator style construct consisting of tend predictor variables (dominant, animated, attentive,

dramatic, open, impression leaving, relaxed, voice, friendly, and contentious) and one dependent variable (communicator image), which corresponds to an individual's perceived effectiveness and attractiveness as a communicator. It should be fruitful, at this point, to furnish an adumbration of each of the variables which, together define the domain of Norton's Communicator Style Construct.

Domain of the Communicator Style Construct[1]

Dominance

Dominance is one of the components of communicative style identified by Norton (1978). According to Norton, the dominant communicator "tends to take charge of social interactions" (p.99). The dominant communicator tends to speak frequently during social interaction and to control the flow of information during conversation. Norton claims that, as a style variable, dominance pervades the literature (Bales, 1970; Leary, 1957; Mann, Gibbard & Hartman, 1967; Schutz, 1958; Lieberman, Yalom & Miles, 1973), encompassing a wide range of semantic and operational meanings. Norton indicates that the literature tends to focus on physical manifestations of dominance, psychological correlates of dominance, and dominance as a predictor of behaviors, attitudes, and perceptions (p.99).

Dramatic

A dramatic communicative style is exemplified by the use

of exaggerations, fantasies, stories, metaphors, rhythm, voice, and other expressive devices to highlight or underscore verbal content (Norton, 1978; 100). As a style variable, dramatizing covaries with a number of communicative phenomena, including self-image, anxiety, status, ambiguity tolerance, and critical group functions (p.100).

Contentious

A communicator who is contentious has an aggressive and argumentative style. Norton contends that, while few data are available in the pertinent literature, contentiousness emerged as a covariate of dominance in his pilot studies, and it tended to entail negative attributes of communicative style (p.100). Norton includes contentiousness in his style construct because "it was thought that it would provide a greater understanding of the dominance component" (p.100).

Animatedness

Nonverbal, particularly kinesic cues, define the domain of the animated component of style. According to Norton, an animated style is characterized by frequent and sustained gestures, frequent and sustained eye contact, and the use of a variety of facial expressions (p.100). Relevant literature indeed suggests that the active use of gestures, postures, body movements, eye contact, and facial expressions characterize the nonverbally animated individual (Dittman, 1962; Goffman, 1961; Rosenfeld, 1966; Schefflen, 1965).

Impression Leaving

The concept of impression leaving centers around whether a communicator is remembered because of his/her expressive behavior. This variable seems best conceived as a function of rather than a component of an individual's communicative style. Nonetheless, Norton includes impression leaving as a style component, and suggests that "a person who leaves an impression should manifest a visible or memorable style of communicating" (p.100).

Relaxed

Norton notes that Sullivan (1953), who defined psychiatry as the study of interpersonal relations, points to the anxious-not anxious, relaxed-not relaxed, and tense-not tense dimensions of behavior as a key to personality. Similar dimensions are included in Ruesch (1957), Bales (1970), and Mann's (1967) systems for analyzing interpersonal processes. Thus, Norton includes relaxedness as a stylistic variable in his system, claiming that it "opens the door to rich and complex analyses" (p.100).

Attentive

The attentive communicator makes sure that the other person (i.e., interlocutor) knows that s/he is being listened to. Norton points out that their is little empirical research describing attentiveness per se as a style variable. He notes that attentiveness is generally embedded in the interpersonal and theraputic literature under the label "empathy" or "listening" (Rogers, 1951). In addition,

under the heading of "attentiveness" a number of nonverbal covariates of conversational behavior have been researched (Duncan, 1972; Naiman & Breed, 1974).

Open

Behavior associated with the open component of style includes communicative activity which is "conversational, expansive, affable, convivial, gregarious, unreserved, unsecretive, frank, possibly outspoken, definitely extroverted, and obviously approachable" (p.101). Stylistically, the open communicator readily reveals personal information about the self during social interaction. Norton contends that research on openness is abundant, and that typical findings indicate that an open communicator is perceived as attractive and trustworthy" (p.101). He further maintains that openness is a pertinent style variable because it relates to trust, reciprocity, nonverbal behavior, and liking (p.101).

Friendly

Stylistically, friendliness serves a sort of "stroking" function in social intercourse. A friendly communicative style is typified by behavior ranging from simply being unhostile to encouraging more intimate behavior. Norton suggests that friendliness has been treated by previous writers in terms of confirmation/disconfirmation (Watzlawick, Beavin & Jackson, 1967), and supportiveness or stroking (Steiner, 1974). In general, a friendly communicator encourages and acknowledges input from others during interaction, and attempts to be supportive and non-threatening (p.101).

Communicator Image

The communicator image variable corresponds to an individual's perceived attractiveness and effectiveness as a communicator. The items in the CSM which are designed to measure it basically attempt to tap a person's image of his/her communicative ability. It is assumed that a person who has a "good" communicator image finds it easy to interact with others, whether they are intimates, friends, acquaintances, or strangers (p.101).

The Communicator Style Measure

Communicator style is operationalized by Norton in the form of the Communicator Style Measure (CSM). The CSM consists of a series of items, each presumed to express the essence of or otherwise "tap" a given style variable, for each of the variables included in the style construct. Table 1 displays the final set of items chosen from an initial pool of 101 by Norton (1978). The items are typically scaled using four or five point, Likert-type scales, and data are obtained by having respondents rate either themselves, or some other communicator, in terms of the CSM. Items are summed within each variable, but not across variables, since cumulativity across variables is not assumed (Norton, 1978).

Previous Research Utilizing the CSM

The CSM, or modifications thereof, have been used in

TABLE 1

Norton's (1978) Communicator Style Measure Items*

Dominant

(1) In most social situations, I generally speak very frequently.
(2) In most social situations I tend to come on strong.
(3) I have a tendency to dominate informal conversations with other people.
(4) I try to take charge of things when I am with people.
(5) I am dominant in social situations.

Dramatic

(6) My speech tends to be very picturesque.
(7) I very frequently verbally exaggerate to emphasize a point.
(8) Often I physically and vocally act out what I want to communicate.
(9) Regularly I tell jokes, anecdotes, and stories when I communicate.
(10) I dramatize a lot.

Contentious

(11) Once I get wound up in a heated discussion I have a hard time stopping myself.
(12) Very often I insist that other people document or present some kind of proof for what they are arguing.
(13) In arguments I insist upon very precise definitions.
(14) When I disagree with somebody I am very quick to challenge them.
(15) I am very argumentative.

Animated

(16) I actively use facial expressions when I communicate.
(17) I am very expressive nonverbally in social situations.
(18) I tend to constantly gesture when I communicate.
(19) People generally know my emotional state, even if I do not say anything.
(20) My eyes tend to reflect to a very great degree exactly what I am feeling when I communicate.

(continued)

TABLE 1 (continued)

Impression Leaving

(21) What I say usually leaves an impression on people.
(22) I leave people with an impression of me they tend to remember.
(23) The first impression I make on people causes them to react to me.
(24) The way I say something usually leaves an impression on people.
(25) I leave a definite impression on people.

Relaxed

**(26) I am conscious of nervous mannerisms in my speech.
(27) As a rule, I am very calm and collected when I talk.
(28) Under pressure I come across as a relaxed speaker.
**(29) The rhythm or flow of my speech is affected by my nervousness.
(30) I am a very relaxed communicator.

Attentive

(31) I can always repeat back to a person exactly what was said.
(32) I always show that I am very empathic with people.
(33) I am an extremely attentive communicator.
(34) I really like to listen very carefully to people.
(35) I deliberately react in such a way that people know that I am listening to them.

Open

(36) I readily reveal personal things about myself.
(37) I am an extremely open communicator.
**(38) Usually I do not tell people very much about myself until I get to know them quite well.
(39) As a rule, I openly express my feelings or emotions.
(40) I would rather be open and honest with a person than closed or dishonest, even if it is painful for that person.

(continued)

TABLE 1 (continued)

Friendly

(41) I always prefer to be tactful.
(42) Most of the time I tend to be very encouraging to people.
(43) Often I express admiration to a person even if I do not strongly feel it.
(44) I am an extremely friendly communicator.
(45) I habitually acknowledge verbally other's contributions.

Communicator Image

(46) The way I communicate influences my life both positively and dramatically.
(47) I am a very good communicator.
(48) I find it very easy to communicate on a one-to-one basis with strangers.
(49) In a small group of strangers I am a very good communicator.
(50) Out of a random group of five people, including myself, I would probably have a better communicator style than 1, 2, 3, or 4 of them.

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* From Norton (1978), p.103.
** Reverse the scoring of this item.

a number of studies to date. Norton (1978) reports that two clusters of style variables, each interpreted as an active communicative style in its own right, best predict a "good" communicator image: for the first, a kind of active listening seems to be the defining quality, whereas for the second, an active sending of messages seems to be the defining quality (pp.105-106). In a related study, Norton and Pettegrew (1977) report that a dominant and open communicative style (i.e., a style characterized by the active sending of messages) was judged significantly more attractive than a dominant and not open, not dominant and not relaxed, or a not dominant and not relaxed style.

In the area of therapeutic communication, Pettegrew (1977) and Pettegrew and Thomas (1978) have demonstrated that persons manifest a sort of "therapeutic" communicator style, particularly when approached by a person undergoing emotional uncomfortableness, or stress, and that even this "specialized" communicator style varies depending on whether the situation is defined as formal or informal. Specifically, in formal therapeutic relationships, an attentive, animated, and impression leaving style best predicts a positive therapeutic climate, whereas in informal relationships, a friendly, attentive, dominant, and impression leaving style best predicts such a climate.

In the area of instructional communication, Norton (1977) found that an attentive, relaxed, friendly, and impression leaving communicative style was positively

related to teaching effectiveness.

Bradley and Baird (1977) investigated the relationship between several approaches to management or leadership in organizations and communicative style. Their findings indicate that democratic management was characterized by a relaxed, animated, attentive, and friendly communicative style. Laissez-faire leadership was similar, except for a lack of animatedness in communicative behavior. The autocratic leader, on the other hand, was characterized by a primarily dominant, and to a lesser extent, relaxed communicative style.

In other studies, the CSM has been employed to examine interactive assertiveness (Norton & Warnick, 1976), conversational dominance in dyads (Norton & Miller, 1975; Miller, 1977) and perceived communication ability and affiliation in triads (Norton, Schroeder & Webb, 1975). Typical findings indicate that communicative style, particularly dominant behavior, covaries with perceived communicative effectiveness.

The initial efforts of Norton and his associates have been of considerable value in terms of the development of a holistic communicator style construct. Further, the framework proposed by Norton, et al. seems generally suitable for the purpose of the present inquiry. First, it provides a set of attributes by which the communicative behaviors of individual interlocutors may be typified. Secondly, the attributes seem appropriate for the description of both

verbal and nonverbal behaviors. Finally, the approach has been used in a number of investigations of communicative style to date, so that a data base exists in relation to which findings from studies such as the present can be compared.

As with any new construct and/or set of procedures designed to empirically assess it, careful scrutiny and attempts at refinement are not only warranted, but ought to be encouraged among members of a scientific community. Further, it was earlier argued that a scientifically useful system of observation and description should meet the requirements of objectivization, relativization, empirical verifiability, reliability, and precision. While Norton's communicative style framework conceptually approaches what we are seeking, the CSM fails to fulfill any of the above requirements. First, the requirement of objectivization is not satisfied, since measurement is subject-centered, and only an individual's self-assessment is taken into account. With few exceptions, observers' assessments of an individual's communicative style are ignored.

Second, the criterion of relativization is not satisfied. Only in the case of item 50 under the variable "communicator image" (see Table 1) is any referent for comparison specified. In effect, communicators are asked to assess their own styles in a sort of social vacuum. Thus, it is not surprising that respondents in many previous studies report that they are good communicators across a

widely diverse set of communicative styles (Norton, 1978).

Third, the requirement of empirical verifiability is not satisfied by the CSM. Regardless of whether a person rates himself/herself or is rated by others, to characterize that person's style as attentive or dominant implies that there are behaviors associated with attentiveness and dominance which are observable and socially intelligible. Yet, no such set of behaviors is specified, and thus, no empirical basis for the characterizations can be offered.

A fourth flaw in the CSM is its failure to satisfy the scaling requirement of precision. The final decision concerning how to scale a theoretic construct or variable should be solidly based on assumptions about the phenomenon being measured, as well as the purpose of the measurement (Nunnally, 1967). Recall that one of the primary aims of the CSM is to provide observers with means by which various communicators may be differentiated with regard to displayed levels (or perceived levels) of stylistic attributes. Given the potentially vast range of communicators (and their respective styles) which an observer may encounter over time, it is questionable whether the scaling method used in previous studies (four or five point, Likert-type scales) affords sufficient precision to allow observers to report perceived differences between communicators, particularly if such differences are fine ones.

Finally, there is evidence that the CSM does not fulfill the scaling requirement of reliability. Norton (1978) reports

internal reliabilities[2] as low as .37 (friendly), using only a four point scale. Only one variable achieved a reliability greater than .80 (dominant). Further, Brandt (1976) reports even lower internal reliability (alpha) coefficients when the range of the scale is increased to a 100-point continuum (.27 to .63). In the case of both data sets, the average reliability estimates were approximately .60 to .65. This is not, by any standard of which the author is aware, an optimum level of reliability of measurement.

In short, while Norton's approach to the study of communicative or interactive style is conceptually closer to the type of system we seek to develop in this thesis, it suffers from at least five methodological shortcomings. It is on the reconciliation of these methodological shortcomings that the next chapter, in part, focuses. A theory and principles of operationalizing the system of stylistic attributes identified by Norton are outlined. An attempt is made to show how the system fulfills each of the requirements of a framework for the scientific description of phenomena. Also, procedures by which observers were prepared to apply the observational system to the precise typification and differentiation of individuals' communicative styles are reviewed.

Summary

This chapter was designed to provide an overview of

some of the literature on communicative style. A number of psychological, linguistic, sociolinguistic, and communication approaches to the study of style were reviewed and critiqued. Each approach was shown to fail to fulfill at least one or more of the requirements of objectivization, relativization, empirical verifiability, reliability, or precision. The approach of Norton and his associates was found to be most compatible with the goals of the present inquiry. Methodological shortcomings of Norton's approach were outlined and a proposal for their reconciliation was offered.

FOOTNOTES

[1] This section largely paraphrases Norton's (1978) description of the origins and domain of a communicator style construct. For a more detailed discussion, see Norton (1978).

[2] Norton (1978) does not report the method used to determine internal reliability.

CHAPTER THREE

THE MEASUREMENT OF COMMUNICATIVE STYLE: THEORY AND DEVELOPMENT

Earlier in this thesis, communicative style was defined as a set of anchored attributes through which the verbal and nonverbal behaviors of individuals may be typified and differentiated. It was further asserted that verbal and nonverbal behaviors are probably best viewed as complementary in supplying the informational cues which are produced and processed by communicators. It was also argued that conceptualizing communicative style in such a manner requires that it be measured accordingly, and that the measurement system should meet the requirements of objectivization, relativization, empirical verifiability, reliability, and precision. In the preceding chapter, it was shown that while the set of stylistic attributes proposed by Norton and his associates are suitable for our purposes, the manner in which they have been operationalized in previous research fails to fulfill any of the requirements listed above.

The purpose of this chapter is to outline procedures for the empirical assessment of communicative style using the set of attributes proposed by Norton, Theoretic and methodological criteria for a precise measurement system are described. Procedures for developing such a measurement

system are also described. Finally, an attempt is made to show how the preceding theoretic and methodological criteria were fulfilled by this measurement system.

Theoretic Criteria

A system for the measurement of communicative style, if it is to be useful in the development of a science of communication, must fulfill the following requirements:

1. The system must take into account the norms, standards, concepts, and other referents which determine or constitute the "social reality" of the members of the social system(s) of interest.

2. The system must consider verbal and nonverbal behaviors as they function together systemically; it must treat them as complementary.

3. The system must be quantifiable.

Each of these requirements is derived from a number of philosophical, social scientific, and communication sources, as well as the author's conceptualization of the relation between science and the study of face-to-face human interaction. It should prove fruitful, at this point, to discuss each criterion separately.

Social Referents Must Be Considered

Winch's The Idea of a Social Science, published in 1958, promotes an "understanding" methodology in the tradition of Weber and Wittgenstein. Winch argues that the social scientist must understand the "meaning" of the behavioral data s/he gathers in order to establish their correspondence to "social reality." According to Winch, the social scientist achieves this understanding by describing the data in terms of the concepts and rules which constitute the social reality of the members of the social system s/he studies. Thus, the description and explanation of social behavior must employ the same conceptual and epistemic framework used by social actors and observers themselves. This position is reiterated by Schutz (1970), who claims that:

> each term in a scientific model of human action must be constructed in such a way that a human act performed ...by an individual actor in the way indicated by the typical construct would be understandable for the actor himself as well as his fellowmen in terms of common-sense interpretations of everyday life (p. 279).

In a more recent publication, Hewes (1978) has distinguished between the above position, termed the "induced perspective" and the "theoretically imposed perspective" as alternative approaches to the scientific study of interpersonal communication. Hewes specifies three broadly conceived perspectives in the process of making the preceding distinction:

> Social scientists hold differing, broad perspectives which dictate the way in which they approach research. For example, one may impose a theoretical structure on the world to gain explanatory power...one could induce an explanation from actors in everyday life... or one could combine these strategies in some way (p. 156).

The essence of debate between the imposed versus induced theoretic camps seems to turn on the question of whether to emphasize the subject (social actor) or theorist (researcher) as the primary source of variables for inclusion in the theoretic and research models. As Hewes (1978) characterizes it, the strength of theoretically imposed perspective is its precision and control in examining relationships among phenomena and constructs imposed on the phenomena. The major weakness of this perspective lies in its frequent sacrifice of ecological validity (Brunswick, 1947), or generalizability of findings to the "real world" of social agents. The induced perspective, on the other hand, dictates that both the theoretic constructs and their interrelationships must be cast in terms comprehensible to social actors in the "language of everyday life." Hence, Hewes (1978) notes that:

> As a consequence, such rules (contructs and interrelationships) gain comprehensibility at the cost of precision. The predictive power of a theory is a direct function of its constructs and the precision of the relationships among its constructs. The language of everyday life is not notoriously precise (p. 164).

A third alternative mentioned, but not developed by Hewes (1978), is an approach which combines the above strategies.

Hewes does, however, offer the following observation:

> To the extent that one can choose the formal representational system so that it does minimal violence to subject-based intuitions, to that extent one may be able to attain the twin goals of understanding and prediction. The problem, of course, is how one makes the correct choice of a methodology which leaves subjects' intuitions unbloodied or at least unbowed (p. 164).

Indeed, how one goes about the business of selecting or developing such a system is, by and large, open to discussion. Recalling that ours is a concern for the development of an observational framework for the precise typification of individual communicative styles, at least two steps toward addressing the above issue may be identified. First, it may be useful to have members of the social system under investigation make and record observations, rather than the researcher or theorist. In this manner, the observational data obtained should reflect greater input on the part of that social system. Second, by having system members consensually generate the empirical referents (verbal and nonverbal cues) which constitute attentive, open, dominant, and other stylistic behaviors, within the social system under study, problems of theoretical imposition of meaning on the system should be reduced.

In short, to establish correspondence between our observational framework and the domain of social phenomena for which it is designed, the conceptual and epistemic referents of members of the social system under study should be taken into account. An attempt was made in this study to do so by incorporating the two steps mentioned above.

Verbal and Nonverbal Behaviors Must Be Considered as Complementary

In reviewing research on the study of verbal and nonverbal behavior in face-to-face human interaction, it is interesting to note that the majority of relevant studies has focused on one or more isolated cues, while generally neglecting a holistic consideration of the same. For communication researchers, such a research strategy is questionable. In fact, a number of scholars have commented to this effect. For example, Keiser and Altman (1976) argue that "a single nonverbal behavior does not occur in a vacuum, but blends together with other behaviors to form complex patterns" (p. 147). Similarly, Leathers (1976) observes that "we rarely communicate solely by facial expression or gesture, or posture, or by our use of space and clothing, or by vocal means. All of the subsystems of nonverbal communication function together in a high proportion of instances" (p. 214).

In speaking of the general acceptance and use of measurement systems by a consensus of scholars, Mehrabian (1972) writes:

> notation and category systems generally have failed to relate meaningfully to communicator states, feelings, emotions, communicator characteristics, relations among communicators, and other communication behaviors. Therefore, the systems are seldom used by other investigators. In contrast, the categories that have been elaborated with a view to their significance in the communication process ...have been far more productive in generating research and empirical findings for the communication process (p. 6).

Knapp (1978) has reflected that "after many hours of viewing visual materials, you sometimes get the uneasy feeling that you are observing and recording minute behaviors which may have relatively little real-life impact -- if any at all. You wonder whether the interacting parties are cognizant of fleeting movements which, only with the advantage of videotaped replays, you are able to observe" (p. 148). Knapp continues:

> Some may question the relevance of looking at micro-momentary facial expressions, eyebrow flashes, and pupil dialation by asking the question: "Are such behaviors perceived in everyday interaction?" Even if the answer is no, this does not suggest that such research is unimportant or even irrelevant, but it raises the question of observational priorities for those concerned with understanding human communication. And, it reiterates the need to establish observational categories which are meaningful to human interaction (p. 148; italics mine).

Finally, Ellis (1977) issues a "plea for the development of meaningful molar category systems for the study of human interaction. However, Ellis cautions:

> A diversity of behaviors which can be classified into a single category is important and desirable if the link is sound...the crucial issue not the molarity of the category (per se), but the correspondence between the category and behavioral instances...the problem with most observational analysis in communication research is that few, if any, researchers devote enough time to their category system...I could find no instances where researchers provided explicity empirical referents for their categories of interaction (pp. 6-7; italics mine).

The above arguments suggest the need to develop an observational framework which acknowledges the functional

complementarity of verbal and nonverbal behaviors in face-to-face interaction. This thesis, in part, is aimed at developing such a system. Further, an attempt is made to avoid the correspondence problems noted by Ellis (1977) by (a) having observers generate a set of empirical referents (verbal and nonverbal) for each stylistic attribute; (b) having the observers rely on these empirical referents in making holistic appraisals of the communicative styles of communicators whom they observe; and (c) statistically assessing the correspondence between the holistic estimates and the individual empirical referents.

The System Must Be Quantifiable

Put simply, the language of science is mathematics (Kramer, 1970). Numbers are the simplest and the most universal linguistic invariants. What one may estimate in a given vernacular as "many," another may estimate as "few." The meaning of "14," however, is relatively unambiguous, both in its formal sense and with reference to aggregates of objects. Because we are interested here in developing a precise system for the scientific description of the communicative styles of individuals engaged in face-to-face interaction, such a system must, of consequence, be quantifiable.

The simplest known quantification is counting. Most studies of verbal and nonverbal behavior in face-to-face settings rely either "counting" methods of assessing such

behaviors (e.g., frequency of eyebrow flashes, head nods, forward leans, word usage, etc.) or "timing" methods of assessing these behaviors (e.g., duration of eye contact or of a speaking turn). Both counting and timing yield information about the frequency and duration of verbal and nonverbal behaviors, respectively. They do not, however, exhaust the measurement possibilities. Measurement involves the establishment of some standard or unit, hence the recognition of some invariant and an agreement to speak in terms of that invariant. Part of the problem addressed in this thesis is the development of a standard or unit for scaling (measuring) the molar or qualitative attributes of communicative style.

To digress for a moment, it is possible to raise the question of whether such molar or qualitative attributes as attentiveness or openness can be translated into quantitative terms. There are some students of communication who have serious doubts, while others are sincerely at a loss to imagine how numbers can be applied meaningfully to the "qualities" of communication. It is probable that these same students would, however, agree that some individuals display more openness in communicating with others than do other individuals. Similarly, they might even confess to having heard and/or made the remark "s/he wasn't paying any attention to me" (i.e. level or degree of attentiveness = 0 in this instance). Interestingly, if one looks at the history of the more "exact" sciences such as physics, one discovers that it is

essentially a history of quantified qualities. As Rapport (1953) has noted:

> Temperature, elasticity, viscosity, luminosity, color, energy are all examples of quantified qualities. The history of chemistry is not too different. The backbone of chemistry is the atomic theory, which is essentially a quantification of quality based on the discovery that innumerable "qualitatively different" substances can be described as combinations in strict quantitative proportions of comparatively few (less than 100) basic substances, the elements (p. 158).

The point is that in a scientific approach to the study of human communicative behavior, specifically face-to-face interaction, precision of description is essential. The development and use of a precise quantitative measurement system affords such precision, provided that such a system can be "meaningfully" applied by observers to the social phenomena of interest. Whether this provision is met depends, by and large, on the degree of rigor with which we specify rules for definition and application of the quantitative system. This brings us to methodological requirements of the system.

Methodological Criteria

Methodologically, it is proposed that a system for the measurement of communicative style in face-to-face interaction, to be useful in the development of a science of communication, must fulfill the requirements of objectivization, relativization, empirical verifiability, precision, and reliability. These criteria were discussed earlier in Chapter One, but will

be briefly listed and once more outlined.

Objectivization

The criterion of objectivization aims at making observations as independent of an individual observer as possible. Stated differently, there is bound to be an element of subjectivity in any human observation -- what one observer sees as "dominant" behavior may not be so typified by another observer. The criterion of objectivization attempts to establish criteria for identifying some event or act as an instance of some class or variable or attribute in such a way that the criteria are minimally dependent on the position or perspective of any single observer.

Relativization

The criterion of relativization requires that the meaning or value of an event or act can only be determined through its relation to some standard unit or referent. To say that a person was "totally inattentive" or "very attentive" can only be rendered meaningful given some standard for comparison. If, on the other hand, we provide a standard or anchor such as "the average level of attentiveness displayed by most people in, say, an initial interaction," then we can assess the attentiveness of any particular individual engaged in a similar interaction relative to the aforementioned standard. Further, if we arbitrarily assign this standard of "the average level of attentiveness displayed by most people in an initial inter-

action" some numerical value such as 100, then we can make the aforementioned comparison and judgment quantitatively.

Empirical Verifiability

The criterion of empirical verifiability demands that empirical referents for observations and measurements be specified. It asks the question "to what behavioral events or phenomena does scale value x for a given attribute or variable correspond?" In the present research, it is important that we demonstrate empirical verifiability by determining correspondence between observers' holistic quantitative appraisals of the level of a given stylistic attribute displayed by a communicator, and the instance(s) of verbal and nonverbal referents upon which such appraisals were supposedly based.

Reliability

Reliability of measurement concerns "the extent to which measurements are repeatable by different persons using (making) the same measure of an attribute (Nunnally, 1967; p. 172). The critical issues in reliability are agreement among observers and the consistency with which a measurement procedure is applied in the observation of phenomena. The system developed here, to be scientifically useful, must exhibit high reliability.

Precision

Precision refers here to the degree to which a scaling procedure incorporated within some observational framework allows observers to make perceived discriminations between stimuli regarding to what degree each manifests some attribute of interest, while minimizing the standard error of measurement. In Chapter Two it was noted that the purpose of the measurement and assumptions regarding the phenomena being measured are important criteria for deciding how to scale the construct or attribute of interest. In addition, it can be argued that the scale selected for measurement should provide observers with at least as many symbols as the number of discriminations they are capable of making. In an information-theoretic sense, the scale must be capable of carrying maximum information about the phenomena being measured. The information carrying capacity of a scaling system is given by the following formula:

$$H = \log_2 x = \frac{\log_n x}{\log_n 2}$$

where H = information content in bits and x = the number of possible different values a scale can take. From this formula, it can be shown that the information carrying capacity of the typical five-point Likert scale is 2.32 bits, which is quite small. By comparison a five-digit Arabic number (where the set of real numbers comprises the scale) can carry 16.61 bits (Woelfel, 1978). Whether observers will report magnitudes or values which maximally exploit the information carrying

capacity of a scaling system is an empirical question. It should be emphasized, however, that failure a priori to provide observers with a sufficiently precise scale is methodologically analogous to problems of theoretical imposition of a conceptual structure on the members of a social system discussed earlier in this chapter. In short, our observational framework must feature precise scaling.

Having outlined a set of theoretic and methodological criteria, it is possible to proceed to a discussion of the procedures by which their fulfillment was attempted.

The Observational Framework

Overview

A series of initial interactions between strangers in a laboratory setting were videotaped and served as the stimuli to be scaled. Some of the interactions were randomly selected for the purpose of training raters to use the observational framework developed here. Three male and three female raters were given conceptual definitions of each stylistic attribute and were subsequently asked to collaborate and consensually generate a set of empirical referents (verbal and nonverbal behaviors) corresponding to each. After all raters were familiar with the conceptual and epistemic framework, they viewed the training videotaped segments and practices making ordinal judgments of the degree of attentiveness, openness, friendliness, dominance, relaxedness, preciseness, animatedness, contentiousness, and impression leaving manifest

by each interactant observed.

The next stage of training required the raters to once again observe the training segments and to make direct magnitude estimates of the degree to which each interactant displayed attentiveness, openness, friendliness, relaxedness, animatedness, dominance, preciseness, contentiousness, and impression leaving given a numerical standard of 100, which corresponded to "the average amount of (a given style attribute) displayed by most persons in an initial interaction with a stranger." This stage of training was continued until sufficient inter-rater reliability was established (alpha = .90 or better).

When the coding of the actual experimental data began, the six raters were randomly assigned to one of two threesomes: one trio rated all persons A in the dyads and the other trio rated all persons B. During this stage, each rater would come in individually, at a different time of the day, three days per week. S/he would view a given videotaped interaction, stop the VTR equipment, record his/her estimates, and then continue until all interactants scheduled for that session had been rated. Upon completion of a given viewing/rating session, the rater turned-in his/her rating forms and was finished until the next session. When all data had been collected for all videotaped interactions, the raters were gathered together and completely informed of the nature of the entire research.

Interactants

Approximately two-hundred undergraduates enrolled in various introductory and advanced courses in communication at Michigan State University were solicited for participation in a study of "dyadic interaction and problem-solving." Participation was strictly on a volunteer basis. As inducement to participate, the potential participants were given the following preview of the research:

> We are interested in the way people interact when they meet someone for the first time. Further, we are interested in determining whether having an opportunity to interact with this person, to become acquainted with him/her, makes a difference in how successfully you can work together in a subsequent problem-solving situation.
>
> For your participation in this study, you should get at least three things in return: (1) you will get a chance to meet someone new; (2) you will have an opportunity to find out more about how communication researchers study communication; and, of course, (3) you will receive extra-credit toward your final grade in the communication course in which you are currently enrolled.

Following this preview, a "sign-up" sheet was circulated and later collected by the experimenter, who thanked the students and their course instructor for the time to describe this research and to request volunteers.

In response to this solicitation procedure, a total of 92 students volunteered to participate. These participants were randomly assigned to one of 46 dyads, and were only reassigned to another dyad if they were acquainted with the person in the dyad to which they ahd been originally assigned (reassignment was necessary in the case of only one dyad).

The purpose of this procedure was to ensure that all interactants were engaged in an initial interaction with a stranger.

Videotaping the Interactions

On the particular evening its members were scheduled to participate in the study, each dyad was brought into a room equipped with video cameras, and two swivelling, "highback" chairs which faced each other and were separated by a small coffee table. The cameras were positioned such that a full-screen frontal view of each interactant was obtained.[1]

Prior to their interaction, each dyad was greeted by the experimenter and its members were introduced. The members were told that since they were unacquainted, and since they would be required to work together on a problem-solving task, they could spend the first five or ten minutes of the session just "getting acquainted." It was further suggested that in order to facilitate the initiation of conversation, to "break the ice," the members might begin by discussing their views on "changing sex roles in contemporary society." This topic was selected since a pilot study indicated that the majority of undergraduates in the experimental population have knowledge of and opinions regarding it. Not only did supplying the interactants with a topic facilitate ease in initiating conversation, but it also served to hold communication content constant for at least a portion of all interactions recorded (though most dyads managed to address topics other than this one during their conversations). It was assumed that holding

content constant would provide raters with a basis for differentiating interactants according to how information was presented, as well as what information was presented.

Following the experimenter's introduction and instructions, he left the room, the audio and video recording equipment was activated, and the participants were left to begin. During the interactions the experimenter waited in another room where he could monitor the conversations and keep track of their duration. Approximately 8-10 minutes after the initiation of a given conversation, the experimenter returned and informed the interactants that it was now time to begin the problem-solving stage of the research. At this time, the members of the dyad were led by a second experimenter (who also was responsible for activating the audio and video recording equipment in this study) to another location in the building in which the interactions took place. Upon arrival at that location, the participants were told that there would be no problem-solving phase of the research, were informed of the entire nature of the research, and asked if they objected to having the videotaped recording of their conversation shown to other students. No participants refused permission to use the tapes. The second experimenter attempted to answer any questions pertaining to the research, and upon completion, thanked the participants and told them they could leave, but to please not discuss the study with anyone else who was scheduled to participate in the study.

This procedure was repeated five evenings per week, for

approximately three weeks, until all 46 dyads had been recorded (average of 3-4 dyads per evening).

Raters

The raters were six undergraduate students (three males and three females) enrolled for independent study credits with the experimenter. The students were informed prior to enrollment that the independent project would be a practicum in the analysis of behavior in face-to-face interaction, and that they would be required to undergo a considerable training period, followed by several weeks of viewing and coding video-taped interactions. In return for their efforts, the students were offered 3 credit-hours of independent study credit.

Training the Raters

The raters were trained for about eight hours per week over a period of six weeks. Ten dyadic interactions, randomly selected from the original 46, were used for training and practice purposes. At first, the raters were given the conceptual definition of a stylistic attribute as described by Norton (1978). Based on the abstract conceptual definition of a given style attribute, the raters conferred and consensually generated a common set of observable behaviors which served as empirical referents corresponding to that attribute. Thus, for example, attentiveness was conceptually defined as "a tendency to listen, to show interest in what the other is saying, and to deliberately react in such a way that the other knows s/he is being listened to." In response to this conceptual

definition of attentiveness, the raters consensually generated the following verbal and nonverbal behavioral referents:

(1) frequency and duration of eye contact

(2) frequency of affirmative head nods, "uh-huhs" and other "backchanneling" behaviors

(3) frequency with which a communicator would repeat, rephrase, or paraphrase the other's statements back to him/her

(4) frequency of requests for clarification or elaboration of the other interactant's previous statement

(5) body-postural orientation (whether directed toward or away from the other interactant).

This process was replicated for each of the nine stylistic attributes included in the observational framework. The purpose of this stage of training was twofold: (1) to allow raters to compare information pertaining to both verbal and nonverbal behaviors considered by each as indicators of a given attribute; and (2) from this comparison, to generate a common conceptual and epistemic frame of reference to be used by raters in making and reporting their observations.

A detailed description of the conceptual definitions and empirical indicators upon which raters' judgments were based appears in Table 2.

TABLE 2

Conceptual Definitions and Empirical Indicators of Communicative Style

ATTENTIVENESS

Definition - a tendency to listen, to show interest in what the other is saying, and to deliberately react in such a way that the other knows s/he is being listened to.

Indicators - (1) frequency and duration of eye contact; (2) frequency of affirmative head nods, "uh-huhs" and other "backchanneling" behaviors; (3) frequency with which a communicator would repeat, rephrase, or paraphrase the other's statements back to him/her; (4) frequency of requests for clarification or elaboration of the other interactant's previous statement; (5) body-postural orientation (whether directed toward or away from the other interactant).

DOMINANCE

Definition - a tendency to "take charge" of the interaction and/or to attempt to lead or control the behaviors of others in it.

Indicators - (1) frequency and duration of speaking; (2) direction of topic(s) of conversation; (3) frequency of interrupting behavior; (4) number of direct glances at the other interactant.

OPENNESS

Definition - a tendency to reveal personal things about the self, to easily express feelings and emotions, and to be frank and sincere.

Indicators - (1) frequency of self-reference statements of personal opinion or experience; (2) frequency of "high-risk" self-disclosive statements; (3) frequency of requests for other to express his/her feelings or opinions.

TABLE 2 (continued)

ANIMATEDNESS

Definition - a tendency to provide frequency eye contact, to use facial expressions, and to gesture often.

Indicators - (1) vocal variation in terms of (a) pitch, (b) loudness, and (c) range, (2) frequency of gesturing and body movement while talking, (3) frequency of facial expressions, (4) intensity of facial expressions, (5) eye movements.

RELAXEDNESS

Definition - a tendency to be calm and collected, not nervous under pressure, and to not show nervous mannerisms.

Indicators - (1) leaning back in one's chair, (2) degree of "steadiness" in the voice, (3) frequency of stuttering and other verbal nonfluencies (inversely related to relaxedness), (4) frequency of mentioning apprehension or nervousness concerning the interaction (inversely related to relaxedness), (5) postural rigidity.

FRIENDLINESS

Definition - a tendency to be encouraging to others, to acknowledge others' contributions to the interaction, and to openly express admiration and supportiveness.

Indicators - (1) frequency of agreement with the other's previous statement or point of view, (2) frequency of acknowledgment of the worth of the other's statement, (3) frequency of smiles, (4) duration of smiles, (5) frequency of forward leans, (6) duration of forward leans, (7) frequency of statements reflecting interest in the other's statements, (8) frequency of statements of personal approval or liking for the other.

IMPRESSION LEAVING

Definition - a tendency to be remembered because of what one says and/or the way one says it.

Indicators - frequency of unique nonverbal mannerisms or gestures, (2) frequency of unique verbal expressions

The next step in the development of the observational framework consisted of identifying and incorporating a scaling procedure by which raters could quantify their observations with maximum precision. The procedure employed here was direct magnitude estimation (Stevens, 1956; Torgerson, 1958; Hamblin, 1974; Shinn, 1974). When making direct magnitude estimations, observers attempt to "match" a numerical magnitude of a given attribute being displayed by some stimulus being scaled, given some standard magnitude for comparison.

The choice of standard is important in the development of any scaling procedure. Woelfel (1974) has argued that "choosing as Rod S (standard or anchor) some ordinary language symbol whose relation to other such symbols is stable over time might make the results of the measurement more clearly interpretable in terms of the ordinary language system than would a Rod S defined by a symbol whose meaning fluctuates in the vernacular" (p. 4). With specific reference to direct magnitude estimation, Hamblin (1974) recommends the following guidelines for the choice of standard and use of the scaling procedure:

1. Use a standard whose level does not impress the observer as being extreme (i.e., use a standard in the middle of the stimulus range.

2. Present variable stimuli that are both above and below the standard.

3. Call the standard by a number which is easily multiplied and divided.

4. Assign a number to the standard only, and leave the observer completely free to decide what he will call the variable. If the experimenter assigns numbers

to more than one stimulus, he introduces constraints of the sort that forces the observer to make categorical rather than magnitude judgments.

5. Use only one standard in any given experiment.

6. Randomize the order of presentation of stimuli to be scaled.

7. Let the observer present the stimuli to himself/herself. S/he can then work at his/her own pace and will be more apt to be attending properly when the stimulus comes on. (pp. 64-65)

The above recommendations were incorporated in the present research. Special attention, however, should now be devoted to the specific standard chosen for this study.

The choice of scaling standard used by raters in this study was largely an outgrowth of the author's reading of Mead (1934), Sherif (1936), Sherif and Sherif (1964), Jones and Davis (1965), Labov (1968), and Miller and Steinberg (1975). Mead coined the term "generalized other" to refer to the general belief, attitudinal, and behavioral patterns of "most persons" in a given social system, as seen from the perspective of an individual social actor. The individual, according to Mead, refers to this "generalized other" in responding to the conduct of others, as well as in attempting to align his/her action or conduct with others in the social system. One interpretation of the generalized other is that it serves as a generally stable referent in relation to which individuals align and interpret their own and others' social conduct.

Similarly, Sherif and Sherif (1964) suggest that members

of a social system arrive at common definitions of what is acceptable and unacceptable with regard to the social practices of members. Sherif and Sherif refer to these standardized practices and evaluations as norms, and suggest that "the standardized practices and evaluations which are called norms need not be identical with typical or statistically average behavior of a group (though they may be). They often embody conceptions of expected behavior, of the goals or ideals of a 'good member'" (p. 166). Further, Sherif and Sherif suggest that the norms of the social system are the standards by which behavior is appraised (p. 166). It is interesting to note that Labov (1968) makes a similar argument vis a vis language behavior and social evaluation in speech communities.

In terms of actual perceptual patterning and information processing, Miller and Steinberg (1975) identify two basic processes which persons use in evaluating and making predictions or assessments about others. Stimulus generalization refers to the process of reacting to others' behaviors of others one has encountered in similar situations, over time. Stimulus discrimination, on the other hand, is a process by which one reacts to and/or evaluates another's behavior based on how it differs from those of others one has encountered in similar situations, over time. Impressions formed and evaluations of observed others are said to be a function of the degree to which such persons are generalized or discriminated in relation to socially shared norms, classes, or stereotypes.

Each of the preceding conceptualizations shares the nation that members of a given social system assess the social conduct of individuals via comparison with others, the latter often providing standards or exemplars. Perhaps the best example of the incorporation of this notion into social theory is the theory of correspondent inferences developed by Jones and Davis (1965). The theory of correspondent inferences attempts to explain a perceiver's inferences about the intentions or dispositions behind another's actions. It is assumed that the observer or perceiver makes initial decisions concerning (a) whether another can forsee the social, physical, or economic consequences of his/her actions and (b) whether another has the ability to produce these and/or other consequences. Assuming both a and b are affirmed, the perceiver is then said to infer intentions behind another's actions which, in turn, are used to infer stable personal attributes or "dispositions" on the part of him/her. Formally stated, "given an attribute-effect linkage which is offered to explain why an act occurred, correspondence increases as the judged value of the attribute departs from the judge's conception of the average person's standing on that attribute" (Jones & Davis, 1965; 224, italics mine). In other words, the attribution of a trait or disposition on the basis of a given action is determined by the degree to which the action departs from normative expectations.

Following from the above lines of thought, it is possible to conceive of a sort of extant system of social differentiation

wherein the communicative conduct of "most persons" serves as a standard or norm in relation to which one's own and others' communicative conduct is appraised and/or evaluated. Beyond the sources previously discussed, the use of such normative standards in aligning and evaluating communicative behavior is consistent with Stokes and Hewitt's (1976) discussion of the connection between culture and personal conduct, as well as Snyder's (1974) conceptualization of the "self-monitoring" individual. In terms of communicative style, a certain level of attentiveness, relaxedness, openness, dominance, etc., is probably normatively expected in initial interactions. "Most persons" display such levels, at least within a certain range, and individuals who deviate from these levels (i.e., who are unusually open or excessively inattentive, etc.) may be readily differentiated (i.e., assigned a value for the style attribute in question) via reference to the normative standard. In effect, we have the potential for an observational framework in which the measurement standard is solidly lodged in the social system of interest. Given that this standard exists, and that persons are at least qualitatively differentiated according to it, it is neither unreasonable nor necessarily difficult to transform this system of "measurement" from a qualitative to a quantitative one. Provided that the requirements of reliability, precision, and empirical verifiability can be satisfied, the system would thus be rendered useful for scientific inquiry.

Such was the rationale underlying the choice of standard and method of measurement employed in this study. Raters were instructed to interpret a numerical standard of 100 has equal to "the average level of _____ (a given style attribute) displayed by most people in an initial interaction situation." Thus, for each interactant observed, magnitude estimates were made by having raters compare his/her behavior with the above standard for each of the nine stylistic attributes. If an interactant's behavior was seen as average for a given style attribute, s/he was assigned a value of 100 for that attribute. If the behavior was seen as exceeding the average, it was assigned an appropriate non-negative integer greater than 100. If the behavior was seen as below the average, it was assigned an appropriate non-negative integer less than 100.

Using the ten sample dyads, the raters practiced making magnitude estimates, referring the above standard, for about four weeks. During the practice sessions, an interactant was observed, raters made independent judgments, and then compared their results. This was done in order to facilitate learning of comparable meanings of individual magnitude estimates among all raters, as well as to establish acceptable inter-rater reliability.

When the coding of the actual experimental data (36 videotaped dyads) began, the six raters were randomly assigned to one of two threesomes: one trio rated all persons A in the dyads, while the other trio rated all persons B.

This was done in order to circumvent problems of cross-contamination and dependence encountered when the same trio rated both interactants in the same dyad.

Coding of the 72 interactants took approximately four weeks. The standard procedure for coding was as follows: Each rater came in individually, at a different time of the day, three days per week. The rater viewed a given videotaped interaction, stopped the VTR equipment, recorded his/her estimates, and continued to the next interactant. The order in which style attributes were estimated was randomized for each interactant to avoid possible order effects. Similarly, the order in which interactants were presented to raters was also randomized. This procedure was followed for all interactants scheduled to be viewed on a given day. Upon completion of a given viewing/coding session, the rater reported to the experimenter's office, turned in his/her rating forms, and was finished for the day. When all interactants had been coded, the raters were gathered together and the nature of the entire project was revealed.

Summary and Conclusion

The purpose of this chapter was to outline procedures for the empirical assessment of communicative style in face-to-face settings, using the set of attributes proposed by Norton (1978). Three theoretic criteria were proposed: (1) that the system must take into account the norms, standards, concepts, and other referents which determine or constitute

the "social reality" of the members of the social system of interest; (2) that the system must consider verbal and nonverbal behaviors as complementary; and (3) that the system must be quantifiable. Methodologically, it was proposed that the measurement system must meet five requirements: (1) objectivization; (2) relativization; (3) reliability; (4) precision; and (5) empirical verifiability.

The system proposed herein seems to meet the theoretic requirements outlined above. Considerable effort is expended to solicit and incorporate the input of members of the social system under study, particularly by having these persons specify the verbal and nonverbal referents used in assessing displayed levels of the various stylistic attributes, and by using a standard of measurement which theoretically is derived from, rather than imposed upon, the observers. Having observers appraise molar attributes like openness, attentiveness, dominance, and the like requires them to consider individual verbal and nonverbal cues as they cluster or function systematically, thus fulfilling the second requirement. Finally, by having observers use the direct magnitude estimation technique, the measurement system is thus quantified.

Methodologically, it is possible to argue that both the criterion of objectivization and the criterion of relativization were satisfied. Measurement is stimulus-centered and is based on an epistemic framework which is the product of a consensus of observers, rather than any single observer's perspective or vantage point. Also, by definition, the direct

magnitude estimation procedure requires the inclusion of a standard in relation to which other stimuli are compared and assigned values for a given attribute. Thus, the criterion of relativization is satisfied.

As for the criteria of reliability, precision, and empirical verifiability, determining whether they are satisfied in the approach developed here requires that the data gathered by raters (which was described earlier) be subjected to a series of statistical analyses. Details concerning these analyses, as well as the results pertaining to the reliability, precision, and empirical verifiability of the observational framework developed here, are presented in Chapter Four.

FOOTNOTES

[1] Post-interaction interviews with interactants indicated that none were particularly apprehensive about or inhibited by the presence of the video equipment. In fact, several interactants cited previous classroom and/or research experience as a basis for their feelings during the interaction sessions. Thus, unless the interactants were lying, the effect of knowing that they were being videotaped should have had minimal impact on their behavior.

CHAPTER FOUR

THE MEASUREMENT OF COMMUNICATIVE STYLE: RELIABILITY, PRECISION, AND EMPIRICAL VERIFIABILITY

In Chapter Three, theoretic and methodological criteria for the development and eveluation of an observational framework for the empirical assessment of communicative style were presented. Of the five methodological criteria, it was proposed that reliability, precision, and empirical verifiability must be satisfied based on the collection and analysis of relevant data. The critical issues related to precision and reliability are threefold: (1) Are multiple indicators of the same latent variable consistent?; (2) Is there sufficient inter-observer agreement, such that error of measurement is minimized?; and (3) Does the scaling procedure incorporated within the framework allow observers to report perceived differences between stimuli which are being scaled with regard to some attribute? The critical issue in demonstrating empirical verifiability centers on whether behavioral referents for reported values of a molar attribute can be specified, measured, and shown to co-vary with those reported values.

This chapter presents the results of a series of data analyses pertaining to the reliability, precision and empirical verifiability of the measurements obtained from raters in the research described in Chapter Three.

Reliability and Precision

Estimates of inter-observer consistency and agreement were obtained by computing the intraclass correlation coefficient[1] for each of the stylistic attributes. This technique is appropriate since it provides an estimate of both reliable variance in observers' ratings, while at the same time accounting for inter-observer agreement by including the "between raters" variance in the error term in the analysis of variance from which the coefficient is ultimately derived.

The results of this analysis are summarized in Table 3. The results indicate generally high reliability and agreement among observer estimates, with coefficients ranging from .714 (friendly) to .949 (dominant). Since the use of a scaling procedure affording a theoretically infinite number of symbols by which observers could report their observations correspondingly increases the possibility of obtaining greater "between rater" variance, these results can be regarded as especially encouraging; they suggest that with sufficient practice, observers can reliably estimate magnitudes of stylistic attributes using a relatively complex scale.

Regarding the general discriminatory power or precision of the scaling procedures incorporated within this observational framework, the data summarized in Tables 4 and 5 are illustrative. Table 4 provides summary statistics for

TABLE 3

Reliability Estimates for All Stylistic Attributes

Attribute	Intraclass Coefficient
Impression Leaving	.835
Open	.891
Attentive	.914
Animated	.867
Relaxed	.923
Friendly	.714
Precise	.865
Dominant	.949
Contentious	.753

all stylistic attributes: the overall mean rating, minimum mean rating, maximum mean rating, range and standard error of measurement for each of the attributes are presented. Initially, it is apparent that the scaling procedure permitted raters to report a wider range of perceived differences between stimulus interactants, for each of the stylistic attributes, than would have been possible using less precise scaling methods (e.g., five-point, Likert-type scales). In this sense, the procedure demonstrates greater precision in terms of discriminatory power.

A second means of evaluating precision pertains to the information potential of the procedures. Recalling the formula presented in Chapter Three for computing the information-carrying capacity of a scaling system, and applying it to the actual range of scale values for each stylistic attribute, it is possible to obtain an estimate of the information-carrying capacity of the magnitude estimates for each attribute. Table 5 summarizes these estimates. The results indicate that, even for the lowest estimate (6.64 bits for animated) the information-carrying capacity of the magnitude estimation procedure was almost three times as great as that of a five-point, Likert-type scale. Further, the estimates summarized in Table 5 can be regarded as conservative since (a) they are based on the range of mean scale values, rather than on the range reported by any single observer, and (b) they are based only on values reported in this research; the potential still exists for a wider range

TABLE 4

Selected Summary Statistics for Stylistic Attributes

Attribute	Mean	Min.	Max.	Range	σ_{meas}
Impression-Leaving	108.95	83.33	190.00	106.67	4.021
Open	118.38	76.67	162.33	85.66	3.581
Attentive	115.09	77.00	173.33	96.33	2.700
Animated	111.24	95.67	165.33	69.66	4.365
Relaxed	113.90	84.67	179.67	95.00	3.967
Friendly	111.50	96.67	170.00	73.33	3.322
Precise	111.61	50.00	142.67	92.67	2.981
Dominant	106.77	57.67	168.33	110.66	3.220
Contentious	96.27	40.67	122.67	82.00	2.581

TABLE 5

Estimated Information-Carrying Capacity of Scale Values Based on Actual Ranges

Attribute	$\underline{H}^*$
Impression Leaving	7.31
Open	6.97
Attentive	7.15
Animated	6.64
Relaxed	7.13
Friendly	6.72
Precise	7.10
Dominant	7.37
Contentious	6.90

* $\underline{H}$ designates information-carrying capacity in bits.

of values to be reported by alternative groups of observers in alternative research settings.

The preceding data seem to indicate that the procedures demonstrate reliability and precision, well within conventional ranges of acceptability. Let us now turn our attention to the issue of empirical verifiability.

Empirical Verifiability

The critical issue in demonstrating empirical verifiability centers on whether independently obtained measurements of the empirical or behavioral referents generated by the observers in this study can be shown to co-vary with the direct magnitude estimates the observers reported.

It was not possible to obtain independent measures of each set of indicators for each stylistic attribute. Neither human nor financial resources were available for this purpose. Therefore, the decision was made to take one of the attributes, dominance, and make as complete a check of its empirical verifiability as possible. Since all stylistic attributes were scaled similarly, and behavioral referents were generated by the same observers for each attribute, should the appraisals of dominance and the individual behavioral referents be substantially correlated, then we may tentatively place confidence in the empirical verifiability of the measurement system.

Procedures

Coders

Three undergraduate students enrolled in a course in nonverbal communication at Michigan State University volunteered to observe the sample of interactants and to code each stimulus interactant with regard to displayed verbal and nonverbal cues reflective of dominant behavior. Coding sessions took place twice a week for the full nine weeks of the quarter: the first two sessions were training sessions in which the individual behaviors were defined, and measurement procedures outlined and practiced; the remaining sessions, which normally lasted from two and one-half to three hours each, were devoted to actual coding.

Behavioral Referents

The behavioral indicators of dominance were as follows: (1) total number of speaking turns (where a speaking turn was defined as a period of talk by one interactant accompanied by the other interactant's assumption of the "listener's role"); (2) direction of topic of conversation (frequency with which a change in the topic of conversation was initiated by the interactant being coded); (3) frequency of interrupting behavior; (4) duration of direct glances at the conversational partner; (5) total duration of speaking. The first three indicators were measured by having coders observe and record each occurrence of the behavior on a "check-list"; with the occurrence of each perceived instance of a behavior, the coder

made a check-mark on the line(s) adjacent to that behavior. The fourth and fifth indicators were monitored by having coders use a stop watch.

Five separate passes through the 30 videotaped interactions were required in order to concentrate on a single behavior at a time. As was the case with raters who made direct magnitude estimates of style, the coders of individual behavioral cues saw only one interactant (full-screen, frontal view) in a given dyad.

Results

Table 6 summarizes the results of the tests of the empirical verifiability of dominance. With the exception of duration of direct glances, all other correlations are both significant and substantial (.51 to .83). Note also that the intraclass correlation coefficients (i.e., reliability estimates) are generally high (.67 to .92). In general, it appears that the relationship between the direct magnitude estimates and the individual indicators is substantial, which suggests that, at least with regard to dominance, the measurement system is empirically verifiable. Though no test of empirical verifiability was made for any other attribute, for reasons mentioned earlier in this chapter, we may tentatively suggest that it is reasonable (albeit empirically questionable) to expect similar findings regarding these attributes. More will be said about this in Chapter Six.

TABLE 6

Summary of Results Pertaining to Empirical Verifiability of Dominance

Behavior	r^{*}	r^{**}
Speaking Turns	.65	.85
Direction of Topic	.51	.67
Interruptions	.83	.72
Duration of Glances	$.17_{a}$	.80
Duration of Speaking	.79	.92

Unless indicated by the subscript a, all Pearson correlations are significant at or beyond the .05 level of confidence with 70 degrees of freedom (two-tailed).

*Pearson product-moment correlation coefficient

**Intra-class correlation coefficient

The purpose of this chapter was to describe a series of analyses pertaining to the reliability, precision, and empirical verifiability of the measurement approach developed in this research. Based on these results, there is evidence that the system is precise, reliable, and categorically empirically verifiable.

The data presented thus far augur well for the scientific utility of this measurement system in the study of communicative style in face-to-face interaction. The next logical step consists of actually applying the procedures in a research setting.

Chapter Five addresses a specific question to which the measurement approach developed here was applied. A study of the relation between interactive style and social perceptions of interpersonal attractiveness and communicative effectiveness is described. Some relevant literature on communicative effectiveness and competence is reviewed. Subsequently, an experiment designed to investigate the relation between style and competence is outlined. Finally, the results are presented and discussed.

FOOTNOTES

[1] This approach was developed by Ebel, R. L. Estimation of the reliability of ratings. Psychometrika, 1951, 16, 407-424.

CHAPTER FIVE

A RESEARCH APPLICATION

Berger (1977) has characterized most empirical studies of communicative or interpersonal style as follows:

> The general thrust of research on communicator style is to isolate various facets of self-presentation which influence such factors as attractiveness and effectiveness in interaction (pp. 219-220).

Among the commonly cited bases of interpersonal attraction are homophily, physical appearance, spatial propinquity, and behavioral reciprocity (Byrne, 1971). In addition to these, it seems reasonable to expect that the manner in which persons communicatively present themselves and/or respond to the communicative self-presentation of others should have a significant impact on attributions made about their interpersonal attractiveness and social competence. That is, reactions to relative strangers may largely be determined by their communicative or interpersonal style. Indeed, Berger's characterization of research on style above suggests that this hunch has guided researchers to a great degree.

This chapter presents a study of the relation between communicative style and perceived social competence to which the measurement model developed here was applied. Specifically,

a study of the relations between style and social perceptions of interpersonal attractiveness and communicative effectiveness is described. Some relevant literature on communicative effectiveness and competence is reviewed. An operationalization of perceived competence is offered. Subsequently, an experiment designed to investigate the relation between style and competence is outlined. Finally, the results are presented and interpreted.

Communicative Competence: Characteristics of the Effective and Attractive Interactant

An area of research which has received increased attention from communication scholars recently pertains to communicative competence. Wiemann (1977) defines communicative competence as:

> the ability of an interactant to choose among available communicative behaviors in order that he may successfully accomplish his own interpersonal goals during an encounter while maintaining the face and line of his fellow interactants, within the constraints of the situation (p. 198).

In justifying the importance of inquiry into the efficacy of communicative behavior, proponents of the communicative competence position maintain that in order for persons to achieve personal and social goals through communication, they must learn to enact behavioral routines which are deemed appropriate to the particular individuals and social situations defining the interaction.

While virtually all scholars who have written about communicative competence adopt a performance-based perspective (i.e., emphasis is placed on the necessity of both the knowledge of efficacious and appropriate modes of interaction and the ability to perform the same), different writers seem to emphasize different features of competence.

Some writers focus on the ability of a social actor to achieve his/her goals through communication. For instance, Parks (1976) conceives of the competent communicator as "one who maximizes his or her goal-achievement through communication" (p. 1). Parks continues to suggest that such a formulation focuses on the instrumental function of individual communicative conduct, by choice, because of the purposive nature of communication. This perspective is consistent with the view of Miller and Steinberg (1975) that "the basic function of communication is to control the environment so as to realize certain physical, economic, and social rewards from it" (p. 62). Such a perspective of communication and communicative competence does not necessarily exclude or ignore the importance of others' evaluations of and impressions concerning an individual's goal-seeking social conduct. In its strictest interpretation, however, such a perspective does not require that others' perceptions or evaluations be taken into account in assessing an individual's communicative competence.

Another perspective of communicative competence focuses on the ability of a social actor to manifest coordinative communication skills. Cushman and Craig (1976), for instance, have suggested that competence rests on the degree to which an individual develops and is able to perform three classes of communication skills: listening, cueing, and negotiation:

> Listening skills turn on our ability to recognize differing types of statements and the respective self-object relationships which they designate. Cueing skills turn on our ability to translate our own relationships to objects into the vocabularies of diverse others. Negotiation skills turn on our ability to recognize the positions of others, to cue others as to our position, and to develop the appropriate strategies for reconciling differences in our expectations toward situations (p. 55).

A third perspective, which focuses on goal-directedness, coordinative skills, and others' evaluations of an actor's communicative conduct is reflected by writers like Bochner and Kelly (1974), Pearce (1976), and Wiemann (1977). Bochner and Kelly (1974), for example, conceptualize communicative competence as follows:

> competence can be judged by the following criteria: (1) ability to formulate and achieve objectives; (2) ability to collaborate effectively with others; i.e., to be interdependent; and (3) ability to adapt appropriately to situational and environmental variations (p. 288; italics in the original).

The emphasis of Bochner and Kelly on the "ability to collaborate effectively with others" is closely paralleled by Wiemann's (1977) definitional emphasis on "maintaining the face and line of fellow interactants" (p. 198) in that both

stress an "other-orientedness" dimension of communicative competence. Taken together, the conceptualizations of Bochner and Kelly (1974) and Wiemann (1977) suggest a perspective of competence in which the importance of goal-achievement, interactive skills, and sensitivity to both situations and other persons are collectively stressed. Such a perspective highlights the social rather than individual nature of interpersonal communication; it suggests that goal-attainment in the absence of an awareness of interpersonal interdependence and social evaluation cannot describe a "competent" communicator from other than a socially myopic perspective. This perspective also enjoins researchers to consider both individual interactive conduct and social reactions to such conduct in order to best understand and explain interpersonal competence. This perspective is also embodied in the present thesis.

While the previous view of interpersonal competence may be conceptually suggestive, few data are available which allow an assessment of its empirical utility, particularly with regard to observer's reactions to or evaluations of an actor's communication behavior. One exception is the work of Wiemann (1977) who, after providing a comprehensive overview of pertinent research, argued that individual verbal and nonverbal behaviors function to create impressions of affiliation/support, social relaxation, empathy, behavioral flexibility, and interaction management skills. These, in turn, lead to judgments of relative competence. Wiemann (1977) had observers watch

videotapes of individuals who displayed varying amounts of these five classes of behavior, and then had the observers rate the individuals in terms of their communicative competence. The results generally supported his argument, with communicators who displayed increasing amounts of affiliation/support, social relaxation, empathy, behavioral flexibility, and interaction management skills being perceived as increasing competent.

While the findings of Wiemann (1977) are enlightening, it is possible to question whether the five classes of behaviors examined are sufficiently precise or inclusive to allow observers to discriminate between individuals and their respective styles. If, as Wiemann and Knapp (1975) have asserted, "we usually make judgments about people based on the way they interact" (p. 75), then it may be necessary to focus more clearly on the relation between communicative style and social evaluations of interpersonal competence.

The research question addressed in the study reported in this chapter may be stated as follows:

> Are there identifiable patterns of relations between communicative style and interpersonal competence?

Method

Competence Operationalized

Rather than employing a competence subscale, as did Wiemann (1977), the social evaluative component of competence was operationalized in terms of three variables: (1) communicative effectiveness; (2) social attractiveness; and (3) task

attractiveness. Since research by McCroskey, Hamilton, and Weiner (1974) indicates that interpersonal attractiveness is not unidimensional, scales developed by those researchers for the measurement of social and task attractiveness were used in this research. Further, the three most reliable items from Norton's (1978) communicator image subscale and Wiemann's (1977) competence subscale were employed to measure communicative effectiveness.

Observers

Observers, from whom measures of perceived communicative effectiveness, social attractiveness, and task attractiveness were obtained, consisted of 180 undergraduates, enrolled in various introductory and advanced courses in communication, who volunteered to participate in a study of "perceptions of behavior in dyadic interactions."

Procedure

The observers were divided into two groups (90 persons per group), one of which viewed all persons A in the dyadic interactions recorded earlier (see Chapter Three), and the other of which viewed all persons B. Further, members of each group were randomly assigned to one of three subgroups. The purpose of such assignment was to pair the mean attractiveness ratings and effectiveness ratings from each subgroup with the style estimates of one of the raters (through randomization) for all interactants observed.[1] This procedure yielded 216 such pairs for data analysis.

The basic procedure consisted of presenting the videotaped interactions to the observers, allowing them to observe each for approximately five minutes, and then having the observers evaluate the interactant in terms of the three communicative effectiveness items, three social attractiveness items, and three task attractiveness items.

Data were collected over a period of three evenings (12 interactants observed per evening) for one week. Separate viewing rooms were used for each group of observers. Upon completion of this stage of data collection, observers were completely informed of the nature of the research, were thanked for their participation, and told they could leave. All observers received credit for participating in a communication research project which was applied to the final grade received by each in the particular course in which s/he was enrolled. This was done in accordance with departmental and university policy concerning research involving human subjects.

Results

Reliability of Competence Measures

Alpha analysis was used to determine internal reliability of the items measuring perceived communicative effectiveness, social attractiveness, and task attractiveness. Coefficients of .976, .906, and .969 were obtained for social attractiveness, task attractiveness, and communicative effectiveness, respectively. The high reliability of observer ratings was expected as a function of (a) the large number of observers

TABLE 7

Intercorrelations Among Style, Effectiveness, and Attractiveness

		1	2	3	4	5	6	7	8	9	10	11
(1)	Impression Leaving											
(2)	Open	.71										
(3)	Attentive	.82	.50									
(4)	Animated	.71	.52	.66								
(5)	Relaxed	.58	.35	.49	.39							
(6)	Friendly	.41	.41	.34	.49	.23						
(7)	Precise	.41	.36	.48	.32	.55	.19					
(8)	Dominant	.28	.49	.13	.55	-.06*	.45	.27				
(9)	Contentious	-.20	-.17	-.18	-.08*	-.05*	-.04*	.45	.36			
(10)	Social Attractive	.80	.63	.57	.71	.40	.51	.36	.36	-.04*		
(11)	Task Attractiveness	.73	.53	.49	.59	.56	.13	.31	.17	-.01*	.72	
(12)	Communicative Effect	.81	.72	.57	.61	.35	.47	.28	.38	-.24	.87	.74

Unless indicated by an asterisk (*) all correlations are significant at or beyond the .05 level of confidence (df = 214).

used, (b) the fact that means from subgroups were entered into the analysis rather than individual observer scores, since our interest was in determining social (i.e., aggregate) rather than individual perceptions of effectiveness and attractiveness.

Intercorrelations Among Style, Effectiveness, and Attractiveness Variables

Table 7 displays the zero-order correlations among all variables examined in this study. As is apparent, nearly all variables are significantly correlated. Since statistical significance is largely contingent on sample size, as well as the "true" relationships between variables (Hayes, 1973), and since the sample of observations in this study was somewhat large (N = 216), it may be of less value to focus on the statistical significance of these correlations, and instead turn our attention to their interpretability vis a vis magnitude and comparability to previous studies. More will be said about this in the final chapter of this thesis. For now, it may be useful to note the following: (1) as was found by Norton (1978), impression leaving correlated strongly with communicative effectiveness, social attractiveness and task attractiveness (.81, .80, and .73, respectively), the latter variables being roughly analogous to the "communicator image" component of Norton's research; (2) impression leaving, openness, attentiveness, animatedness, and relaxedness were at least moderately (.35) or more strongly (.49 to .81) correlated with all effectiveness and attractiveness variables; and

(3) communicative effectiveness, social attractiveness, and task attractiveness, which were conceptualized as complementary components or reflectors of interpersonal competence, were in fact highly intercorrelated. In addition, while it was not strongly related to task attractiveness, friendliness is moderately correlated with social attractiveness and communicative effectiveness (.51 and .47, respectively).

Canonical Correlation Analysis

The purpose of this study was to identify relationships, if any, between a set of communicative style variables and a set of interpersonal competence variables. The method of canonical analysis was selected because it permits us to assess whether linear combinations of certain style variables are significantly correlated with linear combinations of communicative effectiveness and attractiveness variables (Van de Geer, 1971; Harris, 1975; Finn, 1974). Table 8 summarizes the results of the canonical analysis. The results indicate two significant canonical correlations between the set of communicative style variables and the set of effectiveness and attractiveness variables. Both canonical variate coefficients (i.e., the coefficients in the linear regression equations which generates the canonical variate from the original variables) and the canonical loadings (i.e., standardized coefficients expressing the correlations between the original variables and the canonical variate) are reported.[2] For the first canonical variate, the canonical correlation (R_c) between the first and second set of

variables is .898 (x^2 = 604.25; df = 27; $p < .001$). An examination of the canonical loadings indicates that, in the communicative style set (first set) impression leaving, open, animated, and relaxed are strongly related, while dominant, attentive, and friendly are moderately related to the first canonical variate. From the second variable set, communicative effectiveness, social attractiveness, and task attractiveness are all strongly related to the first canonical variate.

For the second canonical variate, the canonical correlation between the first and second set of variables is .768 (x^2 = 258.38; df = 16; $p < .001$). From the communicative style set, attentiveness, friendliness, and preciseness are strongly related, and relaxedness is moderately related with the second canonical variate. No other significant canonical correlations were found among these data.

The results seem to indicate that there are at least two subsets of the communicative style variables which are highly and linearly related to two corresponding subsets of the communicative effectiveness and attractiveness variables (interpersonal competence set). For purposes of interpretation, canonical loadings will be utilized in accordance with the recommendations of Thorndike and Weiss (1973) and Tucker and Chase (1976). For purposes of exposition, let us refer to the subsets of the first variable set as "communicative styles" in their own right, and to the subsets of the second variable set as types or dimensions of perceived interpersonal competence. Accordingly,

TABLE 8

Canonical Analysis Summary Table

Original Variable	First Canonical Variate		Second Canonical Variate	
	I	II	I	II
FIRST SET				
Impression Leaving	1.07	.933	.06	.033
Open	.18	.752	.06	.206
Attentive	- .56	.662	.31	.627
Animated	.45	.783	- .79	- .137
Relaxed	- .27	.792	- .54	.485
Friendly	.15	.520	.69	.518
Precise	.20	.415	.08	.633
Dominant	- .32	.522	.34	.210
Contentious	.11	.087	.42	- .292
SECOND SET				
Social Attractiveness	.66	.980	- .29	.017
Task Attractiveness	.15	.816	-1.39	.576
Communicative Effectiveness	.25	.935	1.52	.239

I = Canonical Variate Coefficients

II = Canonical Component Loadings

First Canonical Variate: R_c = .898; Eigenvalue = .808;

x^2 = 604.25; df = 27; $p < .001$

Second Canonical Variate: R_c = .768; Eigenvalue = .591;

x^2 = 258.38; df = 16; $p < .001$

the results pertaining to the first canonical variate suggest that an impression leaving, open, attentive, animated, relaxed, and to a lesser extent, friendly and dominant style will elicit perceptions of both social and task attractiveness (i.e., persons will perceive the interactant as potentially likeable and easy to work with), and perceived communicative effectiveness (i.e., the interactant's style will be seen as skilled and pro-social). In terms of the second canonical variate, the results suggest that an attentive, friendly, precise, and to a lesser extent, relaxed communicative style will elicit perceptions of task attractiveness (i.e., the interactant will be seen as a potentially desirable working partner or associate).

The results obtained here are generally consistent with those obtained by Norton (1978), Norton and Pettegrew (1976), and Wiemann (1977). In the next and concluding chapter of this thesis, these findings will be considered in detail. Specifically, Chapter Six provides a discussion and summary of all the work presented in this thesis. Individual sections are devoted to (1) the available evidence pertaining to the utility of the measurement system developed here, (2) the results pertaining to the relation between communicative style and perceived interpersonal competence, (3) the implications of the findings for future communication inquiry, and (4) problems and limitations of the research. The final chapter concludes with a summary of the entire thesis.

FOOTNOTES

[1] See Chapter Three for a detailed discussion of the manner in which ratings of the videotaped interactants' communicative styles were obtained.

[2] While the canonical loadings are generally more readily interpretable, and while they are informative as to the degree to which the original variables are correlated with the canonical variates, the canonical variate coefficients are informative with regard to the relative weight of each of the original variables in the linear regression equation which generates the canonical variate(s). Thus, both items of information are presented for the reader's consideration.

CHAPTER SIX

DISCUSSION AND CONCLUSION

The purpose of this chapter is to review and critique the work presented in this thesis. Specific sections are devoted each to (1) the available evidence pertaining to the utility of the measurement system developed here, (2) the results pertaining to the relation between interpersonal competence and communicative style, (3) the implications of the findings for future communication inquiry, and (4) problems and limitations of this study. The chapter concludes with a summary of the entire thesis.

Scientific Utility

In Chapter Three, a set of theoretic and methodological criteria were specified by which the scientific utility of a measurement system developed for the study of face-to-face interaction, in general, and communicative style, in particular, might be assessed. The theoretic criteria are: (1) the system must take into account the norms, standard, concepts, and other referents which constitute the "social reality" of the members of the social system of interest; (2) the system must consider verbal and nonverbal behaviors as functionally complementary; and (3) the system must be quantifiable. Methodologically, it was proposed that the

measurement system must meet the requirements of (1) objectivization, (2) relativization, (3) reliability, (4) precision, and (5) empirical verifiability. To the degree that a given measurement system satisfies these theoretic and methodological criteria, its potential scientific utility is heightened. Mindful of the above, let us assess the scientific utility of the system developed in this study.

It is my belief that the system developed herein meets the theoretic requirements outlined above. Considerable effort was expended to solicit and incorporate the input of members of the social system in which observations were recorded. In particular, two steps were taken to fulfill the first theoretic requirement: (1) observers consensually generated the verbal and nonverbal referents used in assessing displayed levels of the various stylistic attributes, rather than having empirical referents supplied to them by the researcher; and (2) a standard of measurement was employed which was derived from observer's experiences, rather than an arbitrarily imposed one. Such an approach is consistent with Hewes' (1978) call for a "combinational" approach that facilitates both precision and comprehensibility in communication research.

The second theoretic requirement seems to have been fulfilled as a result of having observers offer holistic appraisals of molar attributes like openness, attentiveness, dominance, and so forth, requiring them to consider individual verbal and nonverbal behaviors as they cluster or function

systematically in human communicative exchanges.

Finally, by having observers use the direct magnitude estimation procedure, the requirement that the system be quantified was satisfied.

Methodologically, the criterion of objectivization appears to have been satisfied. Measurement was stimulus-centered and was based on an epistemic framework which was the product of a consensus of observers, rather than that of any single observer's perspective or vantage point.

Furthermore, the methodological criterion of relativization was also apparently satisfied. By definition, the direct magnitude estimation procedure requires the inclusion of a benchmark in relation to which all other stimuli being scaled are compared and assigned scale values.

The results pertaining to reliability and precision offer further evidence of the potential scientific utility of the measurement system. Intra-class correlation coefficients were generally high for all stylistic attributes, ranging from .714 (friendly) to .949 (dominant). The range of ratings reported by raters was clearly greater for all stylistic attributes than would have been possible using many conventional scaling methods. By the same token, the percentage of reliable variance produced by rater estimates was generally high for all attributes, while the standard error of measurement was in no case greater than 4.365. This is a relatively small error rate when one considers the complexity of the scale used (i.e., theoretically, all positive

integers comprise the scale). Thus, the criterion of precision is satisfied since the scaling procedure incorporated within the observational framework developed here is sensitive enough to allow observers to report perceived differences between stimuli being scaled, while minimizing error of measurement.

The critical issue in demonstrating empirical verifiability centers on demonstrating correspondence between raters' holistic appraisals of a given stylistic attribute, and the empirical or behavioral referents claimed by those raters to provide an objective epistemic framework upon which the appraisals are based. As was noted in Chapter Four, neither human nor financial resources were available for the task of checking the empirical verifiability of the ratings for all attributes. Dominance was arbitrarily chosen and tested for empirical verifiability. With the exception of duration of direct glances, all other correlations between individual referents and the raters' magnitude estimates were significant and substantial (.51 to .83). While research by Exline (1972) has indicated that duration of eye contact is positively related to control or power in dyadic interactions, it should be noted that the status of the interactants was independently manipulated prior to the interaction, so that dominant role-bound or submissive role-bound behavior may very well have been a function of factors exogenous to the interaction, rather than emergent during the interaction.

No such independent manipulation of power or status was

made in this research. Rather, the interactive setting was that of an initial interaction between strangers whose statuses may be presumed to be fairly equal going into such interaction (Goffman, 1967). Also, the duration of eye contact was also listed as a nonverbal indicant of attentiveness. An independent check of the relation between appraisals of attentiveness and duration of eye contact produced a Pearson r of .912 ($df = 28$, $p < .001$). Thus, it would appear that, though they listed it as an indicator of dominance, the raters associated duration of eye contact with attentive behavior. This suggests that situational and relational factors may influence how an individual verbal and/or nonverbal cue is processed and interpreted by observers of face-to-face interaction, and that perhaps such factors should receive greater attention in preparing observers to utilize these procedures. Nevertheless, the results generally indicate that, at least in terms of dominance, the measurement system is empirically verifiable. We can tentatively expect to obtain similar findings regarding the other attributes, since procedures for preparing and making measurements of those attributes were uniform throughout the research.

The question of validity frequently arises with regard to the development of new measurement procedures. It is difficult to assess the validity of the system developed here based on one study. On one hand, an argument for predictive validity might be made since, as will be seen shortly, the results pertaining to the relation between style

and perceived attractiveness are generally consistent with previous studies (c.f., Norton & Pettegrew, 1976; Norton, 1978; Wiemann, 1977). Determining the validity of this set of procedures will, however, probably hinge on at least two additional factors, both of which can be said to relate to content validity: (1) the degree to which the epistemic framework generated by observers in this study is comparable to those generated by observers in future studies; and (2) the degree to which the same are comparable across the situations in which observations are made.

In sum, the available evidence pertaining to the satisfaction of theoretic and methodological criteria augur well for the scientific utility of the measurement system developed here for the study of communicative style in face-to-face settings. At least one application of the system to a specific research question has been made and was described in Chapter Five. Let us now turn our attention to discussing the results of that application.

Communicative Style and Interpersonal Competence

The results of the canonical analysis indicate that there are at least two subsets of communicative style variables which are highly and linearly related to two corresponding subsets of perceived communicative effectiveness and attractiveness variables. For purposes of exposition, let us refer to these subsets of the first variable (style) set as "communicative styles" in their own right, and to the subsets in the second variable (competence)

set as "types" of perceived interpersonal competence in terms of communicative effectiveness and attractiveness. Accordingly, the first canonical correlation suggests that an impression leaving, open, attentive, animated, relaxed, and to a lesser extent, friendly and dominant style, will elicit perceptions of both social and task attractiveness (i.e., the interactant's style will be seen as both potentially likeable and easy to work with) and perceived communicative effectiveness (i.e., the interactant's style will be seen as skilled and pro-social).

These results are generally consistent with those obtained by Norton and Pettegrew (1976), Norton (1978), and Wiemann (1977). For example, Norton (1978; Study 1) found that impression leaving, attentive, relaxed, open, animated, and friendly all related to a "good" communicator image on the first dimension resulting from a smallest space analysis. Norton and Pettegrew (1976) found the relaxed, friendly, and dominant style components to comprise an interpersonally attractive style. Generally speaking, the results of these and the present study suggest that a kind of communicative or interactive style which is characterized by active listening, supportiveness of the conversational partner(s), openness and candor, and the ability to facilitate interaction through the control of information flow and maintenance of a relaxed atmosphere tends to elicit attributions of interpersonal attractiveness and communicative effectiveness. As such, these findings are highly comparable to Wiemann's (1977) findings that supportiveness, social

relaxation, empathy, behavioral flexibility, and interaction management skills promote perceptions of interpersonal competence. In short, a fairly stable pattern of association between style and competence components has been identified across a number of observational settings.

In terms of the second canonical variate, the results suggest that an attentive, friendly, precise, and to a lesser extent, relaxed style will elicit perceptions of task attractiveness (i.e., the interactant's style will be viewed as facilitative of a positive working atmosphere). While little research has been conducted directly relating communicative style to interpersonal competence in a work setting, it should be noted that Bradley and Baird (1977) found that managers who were perceived as democratic and likeable displayed an attentive and friendly style, which is generally consistent with the results obtained in this study. Both investigations seem to suggest that a person who is relaxed (i.e., does not breed tension as a result of his/her interactive behavior), precise (i.e., facilitates productivity and efficiency through his/her choice of words and gestures), friendly, and attentive makes an attractive working associate. This conclusion, however, must remain tentative. Researchers in the area of organizational and industrial communication may wish to pursue studies of the relation between communicative style and perceived task attractiveness, in order to better understand the nature of interpersonal competence in work settings.

Implications for Future Research

It has already been suggested that the measurement procedures developed and employed here should prove useful in the scientific study of human, face-to-face interaction. The study reported in Chapter Five represents an initial research application of the procedures. Specifically, this study attempted to increase our understanding of the link between social performance and perceived social competence by identifying some relations between communicative style and perceived interpersonal competence. Depending on the settings and situations in which style and competence are investigated, it is likely that patterns of association other than those identified here will be discovered. This prospect will, hopefully, encourage others to pursue such investigations. Beyond this prospect, a number of implications and additional suggestions may be considered.

The components of communicator style identified by Norton (1978) are clearly descriptive of certain molar classes of interactive behaviors, both verbal and nonverbal, which are regularly displayed by actors in social settings. In fact, they were selected for scaling in the present study for three reasons: (1) they offer a set of attributes in terms of which the communicative behaviors of individuals may be typified; (2) the attributes seem appropriate for the description of co-occurring verbal and nonverbal behaviors; and (3) their selection permitted a more direct comparison

of the results obtained here with those obtained in previous studies. These components are, however, by no means exhaustive. In particular, the components included in the style construct, with the exception of contentious, describe primarily positive or pro-social behaviors. It is entirely possible to conceive of additional, less positive or pro-social attributes which characterize and even preponderate the communicative styles of some individuals. Future studies should address this possibility.

It may be of some theoretical and practical utility to distinguish communicative style components which are basically expressionistic in nature (i.e., those which reflect observable expressive behaviors of an interactant) from those which are basically impressionistic in nature (i.e., those which reflect impressions formed by interactants and/or observers regarding an individual's behavioral conduct). For example, attentive, animated, dominant, and precise seem to fall into the former category, while friendly and impression leaving seem better suited to the latter category. This distinction may be especially important with regard to the measurement procedures developed in this research. As an attribute reflects increasingly observable or expressionistic behaviors, it should be increasingly easy for observers to generate empirical referents for it. The theoretic requirements of the measurement system developed here dictate that such referents be specified. To the degree that the subjective or impressionistic nature of an attribute inhibits its

specification, the precision and accuracy of the system, and thus, its scientific utility, may be questionable. This implies that we may not only want to distinguish expressionistic from impressionistic style components, but may also seek to minimize the inclusion of the latter in an observational framework such as that proposed in this thesis.

Mention of the problem of selecting attributes or components for inclusion in our observational framework raises a related issue. The work presented in this thesis may be criticized in part for imposing a set of attributes on observers, rather than having observers identify such attributes. The issue, of course, relates to the distinction between an "induced" versus a "theoretically imposed" perspective of theory construction and empirical inquiry in communication, which was discussed in Chapter Three. The approach taken here falls somewhere between the two extremes. That is, while the concepts scaled were imposed on observers by the researcher, the impirical referents which largely constituted their operationalization were supplied by or induced from the observers. Such an approach is similar to Denzin's (1970) description of the use of sensitizing concepts as endemic to a symbolic interactionistic perspective of social behavior:

> By sensitizing concepts, we refer to concepts that are not immediately transformed into rigid, operational definitions via an attitude scale or check-list. Rather, sensitizing concepts are deliberately left nonoperationalized until the investigator enters the field and learns the specific meanings attached to the processes represented by his concept...This process of

> sensitizing-a-concept permits the sociologist to discover what is unique about each empirical instance of the concept while he uncovers what it displays in common across many different settings. Such a conception forces (in fact allows) the sociologist to pursue his interactionist view of reality to the empirical extreme (pp. 455-456).

One may extend the above line of reasoning to suggest that, if a researcher is interested in typifying the communicative styles of individuals in terms of a set of attributes which constitute the social reality of those individuals, the attributes themselves should be culled from a sample of members of the social system under study. One rather interesting question implied by such an approach concerns whether the sets of attributes supplied by samples across studies (a) reveal a central or core set of stylistic components, and (b) yield components comparable and basically similar to those identified and imposed on observers in studies like this one. Researchers cannot ignore this issue in future explorations of communicative style in face-to-face interaction.

It seems likely that communicators choose to display and/or mask certain elements of their respective communicative styles as a function of their individual goals, the presence and identities of others with whom they interact, as well as the social situations in which such interactions take place. Typifications of an individual's communicative style and perceptions of his/her interpersonal competence may vary accordingly. This suggests that researchers ought to address the possibility of both context-specific and cross-contextual

relations between components of communicative style and other variables, in planning and executing their research efforts.

In Chapter Two the "accomodation model" of Giles and Powesland (1975) was discussed. Recall that this model is predicated on the assumption that a person can elicit more favorable interpersonal evaluations from others by reducing dissimilarities between himself/herself and these other persons. To accomplish this convergence or dissimilarity reduction, interactants may adapt their speech patterns toward the speech patterns of fellow interactants. Mindful of the preceding, the use of the procedures developed in this thesis may be useful in studies of "style accomodation," particularly those examining convergence behavior and relational development longtitudinally.

Finally, while the development of the measurement procedures was, in part, predicated on the notion that communicative style is a multiple-attribute construct, the use of these procedures in the study of individual attributes may prove fruitful. Examples of such studies might include the study of dominance in face-to-face interaction, studies of self-disclosure in face-to-face interaction, or studies of attentiveness in face-to-face interaction. Also, the general set of procedures might also be applied to attributes of interest to researchers which were not explored in this research. Interested researchers could employ the procedures to obtain precise, quantitative appraisals of any number of communication or behavioral attributes, provided empirical referents for these attributes could be specified.

Limitations of this Research

This study is limited by at least four factors: (1) possible problems arising from the imposition of stylistic attributes on observers; (2) the absence of evidence pertaining to the empirical verifiability of stylistic attributes other than dominance; (3) the nature of the interactive setting; and (4) the role played by observers in this study. The first two factors have already been discussed in some detail, and the reader is merely reminded of them here. The latter two warrant further consideration.

The situation in which interactants were observed, although pervasive in everyday social intercourse, is comparatively unique. That is, for any given human relationship, the participants have only one initial interaction. As Wiemann (1977) has noted, "criteria used to evaluate others probably change over time; people may be more tolerant of some types of behavior in initital interactions because they are initial interactions" (p. 211). While it may be argued that a basic or elementary set of communicative style and interpersonal competence attributes remains the foundation for social typification and evaluation of an interactant's conduct, more ideographic criteria may evolve as an interpersonal relationship develops. For example, Suttles (1970) suggests that one indicator of friendship is the development of relational norms between friends which are often at odds with more general cultural norms regarding similar behaviors. It is the agreement, implicit or explicit, to break cultural norms which

marks the relationship. The specific ways in which ideographic factors such as the development of relational norms might impinge upon the process of typifying communicative style and interpersonal competence remain, by and large, open to empirical inquiry. Thus, as was earlier suggested, researchers ought to explore both situation-specific and cross-situational contingencies influencing relations between communicative style and perceived interpersonal competence. In the meantime, any attempt to generalize the findings of this research beyond an initial interaction setting must be made cautiously until pertinent data are available.

By assuming the role of non-participating observers of face-to-face interaction, the raters in this research assumed a different perspective of the behavior of interactants than the perspectives most likely assumed by the interactants themselves. This is not a weakness from the standpoint of the scientific enterprise, but it may be interpreted as a potential limitation of the present study by those interested in the perceptions of actors engaged in interpersonal processes. It should be noted that interactants in this study were asked to complete a version of Norton's (1978) Communicator Style Measure, for the purpose of assessing the communicative styles of their respective dyadic partner. These data, while not directly related to the goal of the present thesis, will be analyzed at a later time.

Summary and Conclusions

The purpose of this thesis was to propose a paradigm

for the study of interactive or communicative style in human face-to-face interaction. Communicative style was conceptualized and operationalized as a set of anchored attributes in terms of which the verbal and nonverbal behaviors of individual interactants may be differentiated and typified.

Chapter One introduced the reader to the area of inquiry, and provided an overview of the contents of the thesis.

Chapter Two presented a review of previous research on communicative style. Special attention was devoted to the work of Norton (1978) and his associates. An attempt to specify conceptual and methodological problems with previous studies was accompanied by an attempt to identify steps toward resolving these problems.

In Chapter Three, an attempt to develop a paradigm for the empirical assessment of style was made. A series of conceptual and methodological requirements were specified in terms of which the procedures might be assessed. Proceeding from a number of extant conceptions of social behavior, including attribution theory, learning theory, symbolic interactionism, linguistics, sociolinguistics, and the psychology of social norms, it was argued that the average level of a given stylistic attribute displayed by "most persons" in a given situation serves as a benchmark in relation to which the communicative conduct of an individual interactant is assessed. It was further argued that transforming this social system of typification from a vernacular to a quantitative one would render it useful for scientific description, provided the

requirements of reliability and precision, objectivization, relativization, and empirical verifiability were satisfied. Subsequently, the procedures by which this transformation was attempted and applied here were described.

Chapter Four presented data pertaining to the reliability and precision, and empirical verifiability of the procedures developed herein. The results indicated that measurements obtained utilizing these procedures were both reliable and precise, and that in terms of at least one attribute (dominance), the measurements were empirically verifiable.

In Chapter Five, a study of the relation between communicative style and perceived interpersonal competence was described. Relevant literature pertaining to communicative competence was briefly reviewed and an operationalization of competence offered. Subsequently, the procedures by which the study was conducted were described. The results of the study indicated at least two different communicative styles are related to two different types of perceived interpersonal competence.

This chapter concludes the thesis with a discussion of the work presented in preceding chapters.

In concluding this discussion, two points are worth noting. First if, as Hewes (1978) has suggested, any test of a theory is "really a test of the assumptions of that theory and the assumptions of the methodology used in the study" (p. 165), and communicative style is conceptualized as a multi-behavioral construct, then the use of measurement

procedures such as those proposed in this thesis is recommended, particularly if the multiple behaviors which constitute the various components of style are viewed as functionally complementary. To focus on discrete, isolated behaviors at the empirical level would be inconsistent with assumptions about the phenomena under study.

Second, if Hewes (1978) is correct in asserting that "researchers should have at their disposal the widest possible range of methodological tools" (p. 165), then the addition of these procedures to the methodological repertoire of communication scholars is desirable. This is not an argument in favor of the proliferation of observational methods for the sake of proliferation, since we have already noted the potential confusion which may result from applying different conceptions and methods of observation to the "same" phenomenon. Rather, it is a suggestion that access to and the use of alternative observational procedures should, for the present, provide multiple bases for establishing the empirical stability of relations between communicative style and other variables of interest.

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