AN ASSESSMENT OF THE UTILITY OF THE COGNITIVE STYLE
CONCEPT IN INTERCULTURAL COMMUNICATION RESEARCH

By

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ABSTRACT

The purposes of this thesis are to provide a critical assessment of several treatments of the cognitive style concept and offer suggestions regarding that concept's use in future intercultural communication research.

Two major intercultural treatments of the cognitive style concept are presented, interpreted and compared. First, due to the extensive influence his formulation of cognitive style has had the work or other cross-cultural researchers, the work of H. A. Witkin is treated. Second, the work of Edmund S. Glenn and his associates is addressed because of Glenn's explicit interest in the relationship between cognitive style and intercultural communication and conflict. Two other unrelated cognitive style formulations are also presented to offer contrast to those of Witkin and Glenn.

This examination of Witkin, Glenn, and other scholars following their leads with the cognitive style concept reveals three critical issues. First, their formulations of cognitive style are bipolar and therefore
unidimensional, perhaps placing constraints on the possible range of cognitive style. Second, their formulations of cognitive style rely heavily on previous research which has had cognitive development in the individual as its focus, thus further restricting the manner in which cognitive styles might be defined. Third, the previously discussed formulations of cognitive style focus, by definition, on the cognitive process by which thought is organized, as opposed to cognitive content.

As a result of these findings, it is suggested that cognitive content as well as process be considered when defining cognitive style dimensions to: (1) insure more equivalent contexts across cultures when seeking evidence of existing unidimensional formulations; and (2) provide a point of departure for elaborating additional (possibly culture specific) style dimensions—dimensions that are not necessarily grounded in universal cognitive developmental processes.
CHAPTER I

INTRODUCTION

The purposes of the research reported in this thesis are to: (1) provide a critical assessment of several treatments of the cognitive style concept; and (2) offer suggestions regarding the concept's use in future intercultural communication research.

Cognition

Cognition, most broadly, refers to an individual's mental operations. Goldstein and Blackman (1978) characterize cognition as the organism's mediating process between the reception of a stimulus and the associated response. Scott, Osgood, and Peterson (1979) refer to cognition as, "that which is known by the individual . . . cognition is the representation of reality the person experiences as reality itself" (p. 7).

These and other writers (e.g., Glenn, 1981) distinguish between examining the content of cognition (the actual ideas the individual has) and the processes of cognition
(the means by which those ideas are developed, stored, structured, and transformed). According to Scott et al. (1979):

The task of studying cognitive content is essentially different from that of studying cognitive processes. To describe the contents of cognition is to describe a representation of reality, and thus to describe the facts from some person's point of view. Though a subject's cognitive contents are not directly known to an observing psychologist, they are known to the subject. Cognitive processes, on the other hand, involve not beliefs, but mechanisms, structures and states. Neither the observing psychologist nor the subject can know these processes directly; they must be inferred from behavior and reports. (p. 8)

This thesis examines literature that deals with both the content and the process of cognition. This is inescapable since the content of cognition is a manifestation or reflection of cognitive process. What is more, it is only through an examination of content that inferences can be made regarding an individual's cognitive process. If, for example, the examination of a subject's cognitive content reveals that the subject describes objects with great detail, one might infer that the cognitive process underlying such descriptions focuses on specific attributes of objects perceived.

Cognition will here refer to the categorization of
percepts and the development of concepts, a definition which encompasses a treatment of both the content and the process of cognition. A percept is here defined as the abstraction of sensations within the mind that the organism responds to as the actual object of perception. A concept is here defined as an abstraction or grouping of related percepts.

Cognition and Communication

According to Bruner and his associates (Bruner, Goodnow, & Austin, 1956; Bruner, Olver, & Greenfield, et al., 1967) categories of percepts are not uniform, objective discoveries that everyone makes of the world in the same way, but are inventions unique to each person. The individual nature of such categories is explained by Kelly (1955) who believed that no one responds to their environment as it is but to their personal cognitive constructions of it.

Kelly and others (Adams-Webber, 1979; Martin, 1976) suggest that each person has concepts or images of his/her environment—images upon which subsequent behavior is based. Indeed, if cognition is treated as the mediation between stimulus reception and associated response as suggested by
Goldstein and Blackman (1978), all behavior, communicative or otherwise, follows from such mediation.

The relationship of cognition to communication is also reflected in the works of Zajonc (1960) and Brewer (1974). Zajonc, for example, speaks of "selective and directive effects in perception and cognition" (p. 159) on communication.

Burke (1979) is more specific, having found that the number of constructs in an individual's construct system and the quality (meaning abstractness) of those constructs were both reliable predictors of persuasive communicative style.

Delia, Kline, and Burleson (1979), however, found that as children mature, the number of constructs decreases as an effective predictor of persuasive strategy while construct abstractness becomes an increasingly stronger predictor.

O'Keefe and Sypher (1981) interpret such findings:

These various studies suggest that the number of interpersonal constructs in an individual's construct system (differentiation) and the quality (e.g., abstractness, comprehensiveness) of those constructs play different (and shifting)
roles as determinants of communicative functioning. (p. 82)

In essence, differentiation and abstractness of constructs can not only be inferred from an individual's communication, but are believed to be related to the nature of that communication. For example, the number of arguments used may be a measure of underlying differentiation in cognition, but is also creating a particular style of communication—in this case, a plethora of arguments as opposed to one or two.

These studies seem to suggest an antecedent relationship of cognition to communication. One must not forget, however, that the reverse may also be true, that communication (and social interaction) influence cognition. As Haslett (1983) points out, this influence is clearly seen when one considers the role of communication and social interaction in the child's cognitive development.

Thus, it can be seen that cognition, by virtue of its mutually interactive relationship to an individual's communication behavior, warrants the critical attention of communication scholars.
Cognition and Intercultural Communication

Whereas cognition refers to the individual, communication, as a special type of behavior, refers to two or more people immediately related by their attempt to achieve some level of cognitive commonness, or similarity of thought regarding a particular topic. This is the view taken by Martin (1976), who suggests that communication between two or more people is nothing more than an attempt to attain congruence between their constructs. He defines a person's constructs as, "the sensations or the pictures in the mind that correspond to an individual's experiences with the referents being mentioned" (p. 427). Martin conceives of constructs as "average referents" abstracted from the individual's encounters with many versions of a given referent. He asserts that communication would be impossible if people did not tolerate deviation from their constructs and that communication becomes increasingly difficult the more intercultural or heterogeneous the communicators. Martin alludes to a continuum ranging from no isomorphism in construct (and therefore no possible communication) through "ever increasing improvement in communication, tending toward isomorphism in construct" (p. 429).
Similarly, Sarbaugh (1979) has developed a continuum on which the homogeneity-heterogeneity of the communicators is classified, thereby affording some measure of the degree to which their communication is intra- or intercultural:

The study and practice of communication can be approached with more precision if we classify it by level of interculturalness rather than as two dichotomous categories of intra- and intercultural. The initial difficulty will be to identify the critical dimensions of difference and to be able to specify the level among those dimensions a given transaction occurs at. (p. 7)

Some of the critical dimensions of difference Sarbaugh utilizes are: perceived relationship and intent among the communicators, their verbal and nonverbal code systems, their knowing and accepting of each other's normative patterns of belief and overt behaviors, and world view. The degree to which these variables, or dimensions, differ (or are similar) between communicators determines the level of interculturalness of the interaction and its position on the continuum.

These continua are used to analyze the nature of the communicators in a dyad or larger group--i.e., their personal characteristics, including the degree of deviation tolerable from each one's constructs in a given situation.
More precisely, it is the degree of difference between the communicators in the dyad (or larger group) that is plotted on these continua.

The importance to communication scholars of the interactive relationship of cognition to communication has already been stressed. This relationship becomes even more important, particularly to intercultural communication scholars, if communication itself is seen as the expression of the constructs of two or more people who are trying to achieve some degree of cognitive commonness.

**Cognitive Style**

The focus of attention here is not on the impact of cognition in general on communication, an area that has already been treated at length by others (e.g., Bever, 1972; Brewer, 1974; Clark & Clark, 1977; Martin, 1976; Zajonc, 1960). Rather, it is the concept of cognitive style which is the focus of attention in this thesis.

According to Goldstein and Blackman (1978), cognitive style refers to "the characteristic ways in which individuals conceptually organize their environment" (p. 2). Messick (1976) defines cognitive style as "consistent patterns of organizing and processing information" (p. 3).
Note that these definitions characterize cognitive style as process. Earlier, cognition in general (reflecting both the content and processes of cognition) was seen as mediation between reception of stimuli and the individual's responses. When considering cognitive style as mediation, the focus is on the consistency of inferred cognitive processes.

Coop and Sigel (1971), on the other hand, describe cognitive style as "consistencies in individual modes of functioning in a variety of behavioral situations" (p. 3). Here, the concept of cognitive style refers to behavioral consistencies.

Kagan, Moss, and Sigel (1963) define cognitive style as the individual's preferred "mode of perceptual organization and conceptual categorization of the external environment" (p. 204). This definition of cognitive style involves two cognitive developmental sequences: First, during maturation a child's perceptions become less global and more differentiated and articulated. The second sequence concerns concepts, which Kagan et al. (1963) define as "labels for groups of similar things" (p. 203). During maturation, concepts, like percepts, become less global and more specific and differentiated. In addition, these
researchers believe that the maturing child becomes increasingly adept at using abstract concepts.

In essence, during maturation, percepts become more differentiated, and concepts become more differentiated and abstract. For example, a toddler may refer to pens, pencils, and crayons, collectively, as "crayons." Such a usage of "crayons" would constitute a global, overgeneralized concept. As the child grows, however, she/he learns to apply the "crayon" concept or label only to objects perceived to have certain attributes, thereby demonstrating an increased ability for conceptual differentiation. At the same time, the child may start to use the more abstract concept of "things to write with" to denote pens, pencils, and crayons, collectively. That is, pens, pencils, and crayons, as differentiated concepts, are related or integrated into the more abstract concept of "things to write with."

Utilizing a definition of cognitive style that is based on the developmental continua of increasing differentiation (of percepts and concepts) and integration (of several specific, differentiated concepts into a more abstract concept), Kagan et al. (1963) delineate two distinct cognitive styles based on a single bipolar dimension:
One particular style dimension involves the tendency to analyze and to differentiate the stimulus environment in contrast to categorizations that are based on the stimulus-as-a-whole. (p. 204)

In other words, one cognitive style involves global, undifferentiated concepts while the other involves differentiated concepts that can be integrated into abstract concepts.

Witkin (1967) also postulates a single bipolar cognitive style dimension (global vs. articulated) based on the degree of differentiation implicit not only in perception and conceptualization of the external stimulus environment alone as Kagan et al.'s (1963) definition implies, but of the subject's own body concept as well. According to Witkin, a differentiated or "articulated" body concept is characterized by the individual's being aware of: (1) the boundary between his/her body and the environment, and (2) the interrelatedness of well specified parts of the body.

Cognitive style is believed to be influenced by the individual's socialization process (Cohen, 1969), environment (Witkin, 1967, 1979), culture (Glenn, 1969, 1981), and linguistic code (Bernstein, 1964).
While the above discussion illustrates the diversity of opinion as to what is encompassed by the concept of cognitive style, there is a critical thread running through these definitions: cognitive style refers to a relative consistency or stability of cognitive processes across time and situations. That is to say, cognitive style is seen as the individual's modal way of perceptually discerning and/or processing sensory input. As such, the concept of cognitive style suggests some measure of consistency and predictability in an individual's cognition. Communicative consistency may be seen as characteristic of, and a product of, those cognitive processes that are described as a particular cognitive style.

**Cognitive Style and Communication**

The relevance of cognitive style to communication can be seen even more clearly if one considers the concept of projected cognitive similarity (Kraemer, 1973), which refers to the mistake, frequently made unconsciously, of assuming another's cognitions are similar to one's own.

For example, imagine the situation of two persons, each operating from distinctly different cognitive styles, attempting to communicate with one another. Utilizing
Kagan et al.'s (1963) conceptual frame, for instance, it is unlikely that a person with an analytic, highly differentiating cognitive style would be satisfied with the description of a particular object or event offered by another person whose cognitive style is relatively undifferentiating and focuses on global qualities of the object. Such a communication difficulty might be evidenced, for example, by the former's request for more detail or specificity regarding the attributes of the object and the latter's inability to immediately apprehend the former's need for more information.

**Cognitive Style and Intercultural Communication**

Implicit in many discussions of cognitive style is the view that an individual utilizes a number of cognitive modes, one of which tends to emerge as dominant or preferred, i.e., that cognitive mode which is characteristic of the individual is referred to as cognitive style. Note that the unit of analysis here is the individual, and a cognitive style is operationally determined by a sampling of the person's cognition as manifest in behavior across time and situations.

In intercultural studies, however, culture is often
considered as the unit of analysis. To operationally ascertain a culture's cognitive style, one first tests for the cognitive style(s) of every subject within sufficiently large sample populations from each culture involved. The data from this testing are then compiled to determine the modal (and perhaps secondary) cognitive styles of each culture. These cultural cognitive styles can then be compared.

On an individual level, being aware of the cognitive style preferences of one's communication partner would help one to anticipate how that other person might be thinking and communicating about a given topic. Such an awareness of cognitive style preference would be an asset in both intra- or intercultural communication.

The advantage of being able to determine cognitive styles on a cultural level, however, is not quite so straightforward. Being aware of a culture's modal style would be to have some indication initially of how one's intercultural communication partner is likely to think and communicate. Nevertheless, such cultural cognitive styles should not be applied inflexibly. One would probably discover that one's counterpart is to some degree unrepresentative of his/her culture's modal cognitive style. One must then be prepared to move away from the anchor point
of a cultural cognitive style and focus critically on the patterns of thought and communication of the individual in question.

Hence, although ultimately one must adapt to another individual's cognitive style in intercultural communication, cultural cognitive styles may usefully serve as: (1) guides for anticipating how one's intercultural counterpart may think; and (2) a foundation upon which to better understand how that counterpart may be different in cognitive style preference from his/her culture.

Purposes

It has been suggested that the general concept of cognition and the more restricted concept of cognitive style are relevant to the study of intercultural communication due to the mutual interaction of cognition and communication.

In addition, the fact that one can only infer cognitive processes from an examination of cognitive content has been stressed.

It should also be noted that the cognitive style concept refers to modal consistencies in the processes by
which thought is organized whether one is considering cognitive processes regarding objects or social interaction.

Hence, the purposes of the research reported in this thesis are to: (1) provide a critical assessment of several treatments of the cognitive style concept; and (2) offer suggestions regarding the concept's utility in intercultural communication research.

Methods--Topical Foci

This critical assessment of the concept of cognitive style is three-fold: First, Chapter II is a presentation of the work of H. A. Witkin, Edmund S. Glenn, their associates, and subsequent scholars who utilize their respective treatments of the cognitive style concept. From the standpoint of intercultural communication research, Witkin must be understood for the pervasiveness of his ideas, and Glenn for his focus on the relationship of cognitive style to intercultural communication and conflict. Hence, Chapter II is a presentation, interpretation, and comparison of the work of Witkin, Glenn, and a number of subsequent scholars who followed their lead.

Second, Chapter III builds upon Chapter II by presenting a number of issues regarding cognitive structure
and cognitive development—issues that impinge directly on Witkin's and Glenn's formulations of cognitive style. Chapter III also discusses other essentially intracultural formulations of the cognitive style concept and contrasts them with the intercultural literature of Chapter II.

Third, Chapter IV, the conclusion, discusses implications of the material presented and offers suggestions regarding utility of the cognitive style concept in future intercultural communication inquiry.

Methods—Critical Concerns

While each chapter has a particular topical focus, six unifying concerns are used to guide this investigation of the cognitive style concepts in subsequent chapters:

1. The antecedents, or factors believed to account for the presence of cognitive styles are discussed.

2. The definition and role of abstraction, a psychological construct common to all the conceptualizations of cognitive style treated in this work (though defined differently by various writers), is explored.

3. The number of styles that are thought to be operative is investigated.
4. If more than one style is believed to be operative, the question of adaptability or flexibility of the individual in moving from one perhaps dominant style to others is addressed. This concern deals with the switching from one cognitive style to another.

5. The cultural neutrality of cognitive style and related concepts is considered. The obvious concern here, particularly with intercultural studies, is whether the concept is usefully descriptive and free of cultural bias.

6. When exploring theory one is necessarily confronted with stated or unstated assumptions. A major intent is to illuminate such assumptions regarding the cognitive style concept, and to consider their implications.
CHAPTER II

WITKIN AND GLENN

Selection of Literature

One can distinguish several distinct trends in the cognitive style literature. For example, one encounters many intercultural studies that do not treat communication as a variable but utilize a bipolar, unidimensional notion of cognitive style.¹ Such studies may examine cognitive style alone or in conjunction with other constructs (i.e., Machiavellianism, external control, etc.) and suggest cultural factors responsible for any differences found (Gruenfeld, Weissenberg, & Loh, 1973; Hovey, 1971; Maroldo & Flachmeier, 1978; Nedd & Gruenfeld, 1976; Smithers, 1974;)

¹A computer information search of Psychological Abstracts covering 1967 through January, 1982, all languages, and a subsequent search of Prepsych data base through September, 1982 found only one (1) source when utilizing in conjunction these descriptors: (cognitive style) AND (communication) AND (cross-cultural differences/ socio-economic factors). A similar exclusive search of Language and Language Behavior Abstracts (LLBA) from 1973 through October 1982, all languages, produced no data. A search of ERIC from 1963 through October, 1982, all languages, found four (4) sources.
When examining such studies, the work of one particular scholar is cited or built upon extensively—the work, covering several decades, of H. A. Witkin (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962; Witkin, 1967). Given the impact of Witkin's work, it is necessary to examine the treatment of the concept of cognitive style in the intercultural work of Witkin, his associates, and a number of subsequent scholars.

In addition, a smaller but equally critical body of literature from the perspective of intercultural communication, is addressed: the contribution of Edmund S. Glenn, and his associates. Whereas Witkin's work warrants attention as a conceptualization of cognitive style utilized with great frequency in intercultural research, Glenn's treatment of cognitive style, unlike Witkin's, focuses on communication with regard to cognitive style. Specifically, Glenn is concerned with the relationship of cognitive style to the problems of intercultural communication and conflict.
According to Witkin (1967) cognitive styles are:

the characteristic self-consistent modes of functioning found pervasively throughout an individual's cognitive, that is, perceptual and intellectual activities. (p. 234)

Witkin's underlying cognitive style paradigm is the global-articulated dimension, or continuum. According to Witkin, an individual is seen to have an articulated style, as opposed to a global style, if she/he:

is able to perceive item as discrete from organized ground when the field is structured (analysis), and to impose structure on a field, and so perceive it as organized, when the field has little inherent organization (structuring). (p. 234)

For the global side of the continuum, however, such analysis and structuring skills, which are indicative of the degree of differentiation present, are relatively undeveloped.

Progression from global to articulated—a progression believed to be ontogenetic—is manifest in: (1) perception; (2) cognition; (3) the degree of differentiation in body concept (i.e., awareness of the boundary between
self and environment as well as the interrelatedness of well-specified body parts); and (4) a sense of separate identity (i.e., seeing one's own attributes as distinct from those of others). In essence, the articulated cognitive style is characterized by developed differentiation of self and the external stimulus environment.

Witkin (1967) believes differences also exist between global and articulated individuals with regard to defense mechanisms and controls:

(Persons with) developed differentiation also show greater differentiation in their tendency to use structured, specialized defenses and controls, as intellectualization and isolation, for channeling of impulse and expenditure of energy . . . persons with a global cognitive style . . . are likely to use such defenses as massive repression and primitive denial; because these defenses involve a relatively indiscriminate turning away from perception of stimuli and memory for past experiences, they represent relatively nonspecific, and hence relatively less differentiated ways of functioning. (p. 235)

Witkin (1967) suggests that the various manifestations of differentiation are not "separate channels of growth but rather diverse expressions of an underlying process of development toward greater psychological complexity" (p. 235). Given the belief that the level of differentiation is indicative of the individual's psychological
functioning as a whole, Witkin has suggested that socialization and ecological factors may effect this level of differentiation, and hence, whether the individual is considered to have a global or articulated cognitive style.

Social and Ecological Factors Effecting Cognitive Style

Witkin (1967) lists several social influences deemed crucial to the development of differentiation:

1. The extent of opportunity and encouragement the child receives to achieve separation, particularly from the mother, in other words, to move toward self-differentiation.
2. The parental and societal manner of handling the child's expression of impulse.
3. Personal characteristics of the parents.
   (p. 236)

Collectively, these factors are known as the "socialization cluster." Witkin as well as later scholars (e.g., Okonji, 1969), have suggested that a socialization cluster fostering autonomy or independence in the child may contribute to the development of an articulated, as opposed to global, cognitive style.

In terms of environmental or ecological factors, the concern is whether or not there are differential effects on the development of cognitive style between life in a
variegated, structured environment, on the one hand, and a homogeneous, monotonous one, on the other. It is believed that survival in a monotonous environment, more specifically a uniform, homogeneous visual field, fosters development of an articulated cognitive style (e.g., Witkin, 1967; Berry, 1966). That is to say, if survival is dependent on one's ability to articulate features in the environment, this ability will be more prevalent when that environment offers little diversity. Those living in a variegated, more structured environment develop an articulated cognitive style as much as is needed. Those in a monotonous environment, such as a desert or frozen wasteland, must be able to distinguish the less perceptible cues for food, water, even direction.

Witkin (1967) summarizes the interdependent nature of socialization and ecological factors:

The role played by ecology in the development of articulation is not to be defined in terms of the objective properties of the field alone. What matters more is the kind of relationship with the particular environment which life circumstances force upon the developing individual. The contribution of ecology in this person-environment-interaction sense, to cognitive development is not readily separable from the contribution of socialization. In fact . . . social arrangements and child-rearing practices evolve in close relation to ecology, and at any point in time these factors are in continuous
interaction, so that the question of their independent contributions is probably academic. (p. 236)

What is more, the degree of parental authority as opposed to autonomy described above is also seen to operate in conjunction with the relative degree of social conformity or "tightness" in an individual's social group. Moving briefly from the individual to the group as the unit of analysis, studies have sought to demonstrate, for example, that hunter-gatherer groups characterized by less emphasis on authority and social pressure for conformity, as well as more independence-engendering child-rearing practices, have more of an articulated cognitive style than sedentary, agricultural groups characterized by more emphasis on authority and social pressure and child-rearing practices emphasizing conformity (Berry & Annis, 1974; Witkin, 1967; Witkin & Berry, 1975). In the former type of group self-control is allowed to operate, thereby enhancing autonomy and an articulated cognitive style. In the latter type of group, the individual is more accountable to the group--an external referent--such that less field-articulation is evidenced.

Witkin and Berry (1975) also elaborate on the variables effecting the level of differentiation in the
individual. In addition to socialization, social tightness and ecological adaptation, they suggest biological effects concerning possible genetic adaptation to the environment and protein availability with regard to the resulting androgen-estrogen hormonal balance. (See Appendix A for summary chart of variables effecting the development of differentiation).

The Field-Dependent-Independent Dimension

Some of the most frequently used tests of cognitive style were derived from Witkin et al.'s (1962) developmental work, but do not utilize the global-articulated dimension. Rather, the field-dependent-independent dimension, which refers to the perceptual aspect of the global-articulated dimension, is frequently that which is tested. Witkin (1967) explains:

In a field-dependent mode of perception, the organization of the field as a whole dominates perception of its parts; an item within a field is experienced as fused with organized ground. In a field-independent mode of perception, the person is able to perceive items as discrete from the organized field of which they are a part. The field-dependence-independence dimension is a continuous one, most persons falling between these two extremes. (p. 236)
since the field-dependent-independent dimension taps the perceptual manifestations of psychological development, and since it is believed that any manifestation (and thereby test) of differentiation can be used to infer the individual's overall level of differentiation, the field-dependent-independent dimension is frequently used instead of the global-articulated dimension—i.e., the former dimension is subsumed under (and refers to) the latter dimension.

Several tests of this field-dependence-independence dimension warrant brief description because they are pervasive in (intercultural) cognitive style research. First, in the Embedded Figures Test (EFT), the subject must extract, or "disembed," a simple, previously-seen geometric form from a complex geometric configuration. The field-dependent person would not, at least within a reasonable time-frame, be able to extract the simple form from the geometric background; the field-independent person would be able to extract the simple form readily.

Second, in the Rod and Frame Test (RFT), the subject is seated in a dark room and is asked to adjust to the upright a luminous rod seen within a luminous, tilted frame. The field-dependent subject will adjust the rod to align with the tilted frame; the field-independent subject would
be able to adjust the rod to the actual vertical, in relation to his/her body position.

Third, in the Body Adjustment Test (BAT), the subject is seated in a tilted room and is required to straighten him/herself to the actual vertical. Field-dependent subjects will perceive the vertical to be close to the room's 35° tilt, apparently utilizing the cues of the surrounding visual field. The field-independent person, however, is able to bring him/herself to the true vertical, apparently utilizing an internal sense of the true vertical, and remaining field-independent with regard to perception of the visual field.

Field dependent or independent performance is not only characterized by a high level of consistency across these tests, but by stability over time as well. According to Witkin (1978):

The tendency to rely primarily on internal referents in a self-consistent way we designate a field-independent cognitive style. The tendency to give greater credit to external referents is a field-dependent cognitive style. (p. 16)

The tendency to be predominantly field dependent or independent is not isolated to the area of perception alone. Congruent behavior with regard to internal or external
referents is believed to be evident in the individual's social behavior as well. Witkin (1978) believes field-independent people, for example, also function more autonomously of their social context than do field dependent people:

The internal frames of reference available to field-independent people enable them to structure situations on their own. Field-dependent people, on the other hand, having less access to internal referents, are, in general, more likely to have recourse to external sources of information which may be helpful to them in acts of structuring. People are obviously the most common source of such information. Accordingly, we may expect field-independent people to function with a degree of autonomy in interpersonal relations, a tendency further encouraged by their self-nonself polarity. On the other hand, field-dependent people may be expected to function less apart from others, a tendency fostered by their continuing ties to people. (pp. 17-18)

It should be noted, however, that Witkin only touches upon communication variables regarding the field-dependent person's reliance on others for information; rather, his concern is with interpersonal harmony, or an individual's overall ability and willingness to interact with others.

In addition, Witkin (1978) believes field-independent individuals show greater ability at cognitively
restructuring percepts:

The internal referents available to field-independent people provide them with a fund of mediating mechanisms for use in restructuring a field on their own, when required to do so by the task at hand. Restructuring may entail organizing a field which lacks inherent structure, imposing a different organization on the field than the one it contains, or breaking up an organized field so that its parts are rendered discrete from ground. The designation "restructuring" seems appropriate for all these acts since they involve making changes in the field, or "going beyond the information given," rather than following the field "as is." When internal referents are less available, as is the case of field-dependent people, the person is more likely to respond to the dominant properties of the field as given. That field-independent people are more likely to follow a restructuring approach than field dependent people has been demonstrated in numerous studies. (p. 22)

Given the different characteristics of field dependence and independence, Witkin (1979) summarizes the distinction between the two styles:

Relatively field-dependent and field-independent people thus make their main developmental investments in different psychological domains, with the result that their growth proceeds along different pathways. Implicit in this perspective is the view that cognitive styles, which are process variables, influence the development of patterns of abilities—in this instance, cognitive restructuring skills and interpersonal competencies in an inverse relation—and so may be regarded as expressing themselves in ability patterns. (p. 362)
It is precisely this realization of the differing developmental investments—that is, the development of abilities enhancing either interpersonal competencies or cognitive restructuring skills—and subsequent behavior implicit in the field-dependent-independent cognitive styles that makes them amenable, according to Witkin, to intercultural research.

**Validity of the Field-Dependent-Independent Cognitive Styles in Intercultural Research**

Witkin offers a number of reasons why his cognitive style dimensions are appropriate for intercultural research. Witkin's (1979) first concern is what he believes to be the "value-neutral" nature of the styles in bipolar formulation:

At each pole (field-dependent or independent) there are qualities that may prove useful under particular conditions. . . . It is in this sense that the field-dependence-independence cognitive style is value-neutral. What does determine the value of a field-dependent or field-independent mode of functioning is its specific contribution to adaptation in a specified context . . . cross-cultural studies have indeed shown that each mode is predominant in the cultural and ecological settings to which it is particularly suited. (p. 363)

Such a notion of value-neutrality is culture-specific and
relativistic. It is the applicability of traits in a given situation or culture that is the measure of their usefulness. For Witkin, this culture-specific approach is more value-neutral than the utilization of one culture's predetermined standards of achievement or tests of ability --standards that may be totally irrelevant or inappropriate in another culture. An example of such inappropriate standards might be the use of nonverbal, abstract geometrical tests of intelligence (see Cohen, 1969, for examples) in a culture whose visual field is far less geometric than that of an industrialized, Western culture.

While the idea of the value-neutrality of the field-dependent-independent cognitive styles seems highly culture-specific, Witkin's formulations of those styles includes a possibly pancultural dimension as well. A characteristic of cognitive styles at the level of psychological differentiation is their inherently emic and etic character (Berry, 1969; Brislin, 1981; Harris, 1976). An etic approach seeks to ascertain principles or features common across cultures; an emic approach focuses on that which is unique and pertinent within a given culture. Although the etic/emic distinction refers primarily to two types of cross-cultural theory, the distinction can be
useful here in an analogous manner regarding the characteristics of cognitive styles (or such a theory) based on the degree of psychological differentiation. Specifically, the emic aspect of such cognitive styles is the concern with culture-specific effects on differentiation, such as socialization, ecology, and social cohesiveness. The etic aspect, however, is seen in the suspected pancultural or universal nature of psychological differentiation.

Witkin's (1977) second major justification for utilizing the field-dependent-independent cognitive styles interculturally concerns the nature of the perceptual tests used. The EFT, RFT, BAT, for example, are nonverbal, a feature having several advantages:

First, such perceptual functions as perception of the upright and perceptual disembedding are commonplace in all human experience. Second, field-dependence tasks can be made meaningful to people of widely different backgrounds, experiences and ages, and the effects of verbal level and verbal facility on test outcomes kept to a minimum. Finally, with tests of field-dependence, more readily than with other kinds of tests, the same essential task may be used, either in its original form or modified in content to suit the local setting. (p. 90)

A final reason for utilizing perceptual tests, which touches on both differentiation and testing, is offered by Witkin and Berry (1975): "Differentiation refers to
structural rather than to content properties of an individual's make-up and so is content-free" (p. 11). That is, an emphasis on cognitive structure, or the processes by which thought is so structured, as opposed to an emphasis on cognitive content, allows one to be more directly and clearly concerned with how thought is organized. It is differences in the organization of thought, which are indicative of a given cognitive style, that are believed to be more useful to cross-cultural research than an analysis of cognitive content--contents that may be similar or dissimilar between members of two or more cultures on a purely coincidental or situational basis.

According to Witkin and Berry (1975), such structural, or organizational properties are:

1. less numerous than content properties and thereby more amenable to comprehensive description;
2. are relatively stable compared to specific contents an individual may or may not utilize at a given time;
3. more conducive to "the search for generality in characteristics . . . than the search for content characteristics." (p. 11)

The appropriateness of Witkin's work, both operationally and conceptually, for intercultural research seems to be bolstered by the fact that there is no clear ordering of advanced, Western cultures and less developed,
non-Western cultures along the continuum of field-dependence-independence. Given findings such as nearly equal field-independent scores between modern, Western subjects and non-Western subjects of migratory, tribal life-style (Berry, 1966), Witkin (1967) concludes that levels of education and material comfort may be irrelevant factors in such comparisons, and that "so-called 'primitive' groups are not uniformly less developed" (p. 248) regarding cognitive style than technologically advanced groups. Witkin (1967) offers an alternative explanation for such results:

The possibility arises from these findings that cultural stimulation, as commonly provided by schools and other social media, may work most of all on behalf of development of verbal-comprehension and social-communication skills. On the other hand, development of the cluster of characteristics which includes an articulated body concept and a developed sense of separate identity (together signifying self-differentiation), is more under the influence of the quality of relations with critical persons (as in the family) early in life. Given the necessary interpersonal relations, these important attributes of an autonomous person may apparently develop even under conditions of so-called cultural deprivation. (p. 248)

It is the interrelatedness of socialization, the demands of the environment, and the structure and nature of society in response to environmental demands, that may, according to Witkin, have more to do with the formulation
of a particular cognitive style, than that which constitutes material culture or education from a Western perspective.

What is more, it is the nature of such social and ecological factors as they appear in migratory as opposed to sedentary subsistence level cultures (as discussed earlier) that has determined, in theory, a direction of evolution in cognitive styles (from field-independent to dependent) as a culture evolves from migratory to sendentary.

A Consideration of Evolution of Cognitive Style and Acculturation

Several writers (Berry & Annis, 1974; Witkin & Berry, 1975) discuss the notion of evolution, on a cultural level, from migratory (characterized by greater psychological differentiation) to sendentary (characterized by lower differentiation, i.e., a field-independent cognitive style as opposed to a field-dependent one).

Berry and Annis (1974), working with the field-dependent-independent cognitive styles, have developed a model to analyze the interrelationships among: (1) the group's ecological setting, (2) that group's cultural adaptation to its ecological setting, and (3) psychological
differentiation. These three elements of their model warrant description.

First, concerning the ecology element, it must be understood that people interact with their environment in order to satisfy their basic, or physiological needs. Different subsistence and economic possibilities will result depending on the kind of environment in which a group may find itself:

The evidence for the ecology element of the model shows that knowledge of physical environmental features allow prediction of the economic possibilities (exploitative pattern and food accumulation) which in turn allows prediction of the demographic distribution (settlement patterns and size of population units). (p. 177)

The two basic possibilities discussed by Berry and Annis are the migratory (hunter-gatherer) and sedentary (agricultural, food-accumulating).

The second element of the model focuses on two cultural concerns which are linked to the group's ecological situation: First, "socio-cultural stratification" can be summarized by associating diverse, elaborate stratification with sedentary groups, and minimal stratification with migratory groups. Second, findings regarding "socialization emphases" demonstrated that greater emphasis on the child's
compliance with authority and obedience to parents characterized socialization in the tighter, agricultural societies. On the other hand, socialization that emphasized a child's greater degree of assertion, self-reliance, and independence characterized the migratory societies:

We may label a broad ecological dimension running from agricultural and pastoral interactions with the environment through the hunting and gathering interactions. Associated with the former extreme is high food accumulation, high population density, high socio-cultural stratification and socialization emphases upon compliance; associated with the latter extreme is low food accumulation, low population density, low stratification, and practices emphasizing assertion. (pp. 178-179)

The third element of the model explores the degree of psychological differentiation manifest in perception as well as in social and affective behavior.

The behavioral expectations Berry and Annis outlined were that the migratory people, by contrast to the sedentary populations, would exhibit: (1) greater differentiation in perception; (2) greater differentiation in the social realm characterized by independence and a greater sense of separate identity; (3) and regarding affect, greater self-control in social interaction. Evidence of varying strength was found for these three expectations.

It should be noted that the model is of limited use
due to the nature of the cultures compared. Such a dichotomy of hunter-gatherer versus sedentary-agricultural, along with the clusters of perceptual and behavioral characteristics associated with each, may be of value when examining underdeveloped, small and relatively isolated subsistence-level cultures. Although the Berry and Annis model does have three more elements designed to handle acculturative influences, contact with other cultures, and acculturated behavior subsequent to culture contact, the authors caution that unless acculturative influences are factored out, or are constant across the three elements of the model discussed above, the model becomes useless.

It cannot be stated that the level of psychological differentiation continues to decrease as groups continue to evolve from a sedentary, subsistence level to a larger, more technological level. Witkin and Berry (1975) offer an explanation for the high level of field-independence frequently associated with modern societies:

Many other factors, which have their main source in cultural diffusion, come into operation in complex industrial societies... since acculturation involves formal education and industrialization which carry greater emphasis on analytical functioning, levels of differentiation might increase. (p. 68)

Field independence may also be prevalent in such a complex
society because of the many more, and more different experiences such a society offers its members.

Note that the tone of these inquiries is particularly tentative. The apparent contradiction between Witkin and Berry's thought above and a previous explanation offered by Witkin (1967) (see p. 24 of this work) is resolved when one recalls that field-independence may evolve in lieu of formal education, in an undeveloped setting, or evolve in a setting characterized by: (1) modern education and skills amenable to the development of field-independence, as well as (2) the necessary social and ecological factors.

Gruenfeld and MacEachron (1975), in a study based conceptually and operationally on Witkin, ventured beyond such a subsistence level model and focused specifically on the relation between cognitive style and varying degrees of socioeconomic development in 22 non-Western nations. The study examined the socioeconomic correlates of field-articulation (independence) to help explain the style's development and distribution across nations and cultures.

A primary assumption of the study was that the poverty of the socioeconomic environment correlates with the level of field-articulation: the poorer the socioeconomic environment, the lower the level of field articulation.
Field articulation, as a cognitive style, is more likely to be evident when survival needs are not a problem. Note that this implication of the Gruenfeld and MacEachron study is at odds with previous research cited that suggests field-independence may in fact be greatest exactly where survival is imperative.

Gruenfeld and MacEachron also associate field-articulation with Western technological thought and education, as well as with Western material comfort. In essence, if a non-Western culture is to be comparable to an advanced, Western culture with regard to (a field articulated) cognitive style, that non-Western culture must be well-off enough socioeconomically for field articulation to be present, thereby making any transition to Western technology or development possible.

Gruenfeld and MacEachron found that levels of socioeconomic development did indeed relate to levels of field articulation. The authors also felt that larger, differentiated, stratified societies would necessitate a field-articulated cognitive style in its members if for no other reason than to deal with the sheer complexity of the society (Also see Triandis, 1973, pp. 171-172 for a similar view).
In essence, Gruenfeld and MacEachron (1975) state that socioeconomic factors as well as child-rearing practices must be considered in future research, thereby suggesting that "the determinants of cognitive style, and their causal sequences, are still an open question" (p. 45).

The work of Witkin and others presented here suggests that changes in the environment influence (or necessitate) concomitant changes in cognitive style. Glenn (1966, 1969, 1981) also deals extensively with the evolution of cultures and cognitive style. For Glenn, the problems of intercultural communication and conflict are indicative of differences in cognitive style.

Edmund S. Glenn

The Associative-Abstractive Polarity With Regard to the Individual

Glenn's (1969) primary purpose is "the use of cognitive considerations in defining a taxonomy of cultures" (p. 47). Glenn's basic dimension for defining such a taxonomy of cultures, that is, an evolutionary continuum for cultures, is the associative-abstractive polarity. Association and abstraction refer, on the level of individual cognitive
development, to two distinct learning mechanisms. These mechanisms will be explored in greater detail in a subsequent chapter; however, some definition is necessary to permit understanding of their use on a cultural level.

Regarding cognitive development in the individual, Glenn (1981) states:

In associative learning, units are connected into informational clusters primarily because they occur together in time or space. Thus, the primary boundary on what is learned is the spatio-temporal context. Informational clusters which are learned in different contexts can become associatively connected by chaining; that is, two informational clusters may be connected because of shared units. . . . There are no conceptually defined boundaries to an associative cluster of units; that is, there are no criteria for limiting what can be associated with what. (p. 56)

It becomes clear, however, that something else is needed to counterbalance the proliferation of associations. Glenn explains:

abstractive learning is based on the abstraction of a relationship between items. The definition of that relationship provides clear boundaries for what can be included in a cluster and what cannot be, i.e., all and only those informational units which contain the relationship can be included. Thus, abstractive learning is not particular to a given situation but is situation independent. Furthermore, it is marked by the search for clear boundaries defining informational structures. (p. 56)
In actuality, Glenn states that association and abstraction work in tandem:

Association and abstraction appear to be complementary mechanisms for the acquisition and the organization of knowledge. New items are incorporated primarily through association. However, association depends to a large extent on random coincidences and lacks organization. Large amounts of information cannot be retained and utilized in a largely amorphous state; organization, generally of a hierarchical nature is necessary. Abstraction provides the mechanism for such an ordering of knowledge, defining the imbrication of classes and the mutual relevance and irrelevance of items. Concepts, contrarily to associative clusters, never appear as isolates but as parts of networks of relations.

The primary process for the acquisition of knowledge appears to be associative. Abstraction appears as the primary process for the organization of knowledge. (p. 57)

From a developmental standpoint, the individual experiences an ever increasing ability to abstract during maturation. The progression toward greater abstraction is, indeed, the development of concept formation. It is these mechanisms of association and abstraction that Glenn defines as cognitive styles and develops for use on a cultural level of analysis.

The Associative-Abstractive Polarity With Regard to Cultures and Cultural Evolution

Glenn (1981) explains the collective use of the
Knowledge acquired through a largely spontaneous experience with an environment is associative. Such a knowledge fits closely with the feelings of individuals and the shared preoccupations of small or relatively small groups. The codification of thought into precise meanings and well organized lexicons is carried out by abstraction. The results of abstraction do not reflect the spontaneous experience of small groups, but the specifically stated systems of knowledge of large groups—potentially of all mankind.

Although differences along the associative-abstractive dimension are used in characterizing cultures, all cultures need and possess both types of elements. (p. ii)

Again, Glenn (1981) demonstrates that it is the growing presence of abstraction that determines the direction of cultural evolution:

... abstraction consists in removing from existing associations elements which are deemed irrelevant; furthermore, the progressive development of the abstractive part of culture appears to be carried out by the additional removal of an increasing amount of associations. The passage of time, at least in some contexts, tends to make concepts leaner and more precise. (p. 10)

By way of example, Glenn cites the erosion of sympathetic magic, a form of associative thought, from what are now modern, technological, and predominantly abstractive Western cultures.

It should be stressed, however, that no culture is
entirely, but it may be predominantly, associative or abstractive. Glenn (1969) cautions that when confronted with new (and perhaps threatening) situations or information, associative behavior may be evidenced in the subjects of either associative or abstractive cultures. In a similar vein, an associative culture abstracts in areas where its abstractive structures are established. This is all to suggest that associative responses are natural unless one has (and is willing to use) abstractive abilities to cope with that new situation or information.

Glenn (1969, 1981) presents what is actually a three-phase progression of thought concerning abstraction. First, associative particularism (or paleo-particularism) is characterized by the absence of abstractive universals and the presence of random, egocentric relationships an individual may have with objects in his/her immediate environment.

According to Glenn (1969), universalism, the abstractive second phase, is made necessary by the difficulty brought into communication . . . by divergencies of individual concrete particularities. . . . The result of abstraction is the introduction of rules of expression, i.e., fixed concepts which may be identically present in the minds of all
the participants in a culture, and thus make communication possible (in reality, perfect in the ideal). (p. 100)

The third phase, abstractive particularism, (or neo-particularism) utilizes the abstractive universals of the second phase not uncritically, but as the basis for case-by-case examination. Glenn (1969) explains:

The new particularism of the third phase is a vastly different matter from the old particularism of the associative first phase. Associative beginnings are particularistic not because they wish to be so, but because of their ego-centrism (or ethno-centrism), their lack of decentration, binds them to the randomness of particular experiences. The particularism of the abstractive third phase...is aware of the universal concepts which have not yet appeared in phase one, but deliberately restricts their application to what is possible under a particular set of circumstances. The associative particularism of phase one is the particularism of experiencing (at its best in poetry); the abstractive particularism of phase three is the particularism of experimenting (at its most usual in engineering). This is why the new particularism is neither ego-centric nor ethnocentric: experiments involve behavior identically reproducible by different individuals, often from different cultures. (pp. 101-102)

By way of illustration, Glenn (1969) offers the universal or abstracted notion of "bridge" being subject, in neo-particularist fashion, to the considerations of cost, labor, dimensions, materials, etc., in a specific context. Glenn (1981) also offers science as a broader example of
neu-particularism

Its [science's] core is the evaluation of universalistic hypotheses... by concrete and therefore particularized action. The process can be defined as neo-particularism: a process relying on particularism, not because appropriate universals were not yet developed, but because they needed validation or, possibly, transformation. (p. 22)

It becomes apparent that the locations of two or more cultures along the paleo-particularistic-universalistic-neo-particularistic continuum may compound the problem of intercultural communication: these phases represent entirely different ways of conceptualizing, for example, natural phenomena.

Intercultural Communication--Models

Glenn (1969) illustrates the type of communication problems that may arise when associative and abstractive cognitive styles meet:

A suggestion of considerable practical importance can be made at this point: if culture E attempts to establish communication with culture P in an area of subject matter in which E has, and P has not, well elaborated cognitive structures, it may be expected that E will act abstractively and P associatively. In consequence, communication in such cases may be exceedingly difficult to establish, and serious misunderstandings are likely. (p. 68)
In other words, given a new subject matter for P, P will act associatively until its familiarity with the subject matter warrants abstraction.

It is this concern with communication (and conflict) that has spurred Glenn and others to devise models of intercultural communication/miscommunication and conflict (Glenn, 1966; Glenn, Johnson, Kimmel, & Wedge, 1970).

Glenn (1966) discusses "the possibility of observing meaning, i.e., observing behavior brought about by communication" (p. 171). Glenn defines two levels of meaning—immediate and latent. Immediate meaning refers to the behavior elicited upon utterance; latent meaning refers to the cognitive or behavioral reaction seen later in time—presumably after some amount of reflection on the initial utterance. Glenn believes it is the failure to communicate identically on both the immediate and latent levels that causes failures in communication.

In this 1966 study, Glenn worked with transcripts of the Security Council of the United Nations, and analyzed the English, French, and Russian translations to determine:

... whether the remaining divergencies [i.e., those divergencies reflecting latent meaning, having withstood the translation of immediate
meaning] between different language versions are meaningless, or whether they can provide some indications as to the ways in which work the minds of people speaking or writing the different languages, and also whether there are nuances of meaning which are easily expressed in some languages, and only with difficulty or not at all in other ones. (p. 171)

Glenn (1966) found divergencies, as well as behavioral correlates, among the three languages, and offered explanations for his findings and their relevance to failures in communication:

It seems that immediate meanings were properly transmitted, but the latent meanings were not. Immediate meanings . . . deal with the processes of diplomacy. Latent meanings may correlate with broad patterns of national behavior, including collective processes of decision making. It is the differences between such decisions (for example between Russian Communism and American Democracy) which underlie the gravest world problems . . .

It thus appears that the very gist of the underlying causes of conflict correlate with the communication that doesn't take place. As for the communication that does take place, it apparently correlates only with the immediate and the superficial. The latter may at times be enormously important, but the failure to communicate the former may have much to do with the impression of futility one often obtains when observing the debates of the world's highest council. (p. 187)

To ascertain if those differences found in the translations were indeed meaningful, Glenn used three typologies. The first, termed universalism, is characterized by: (1) a
trust in pure reason; (2) a tendency to move from "particular situations to general standards" in explanations and descriptions; and (3) the division of the field into broad units, or "quasi-universals" (1966, p. 172).

The second, termed case-particularism, is the polar opposite of universalism, characterized by: (1) trust in action and experience, rather than pure reason; (2) a tendency to focus upon "the observable particularity of the situation at hand" in explanations and descriptions; and (3) the division of the field into small units (1966, p. 172).

The final, termed relationalism, seeks to reconcile the polar qualities of universalism and case-particularism.

Glenn et al. (1970) also offer a model designed to help analyze culture conflict in the context of international relations. Their model is based on the assumption that many times international conflicts are not only characterized by differences of interest but by "diverging patterns of understanding" (p. 36).

The model consists of two bipolar dimensions: (1) the associative-abstractive cognitive style dimension, and (2) the case oriented-universal oriented dimension, which
refers to the "polarity between a generalizing and a particularizing approach" (p. 41). This bipolar dimension is similar in definition to Glenn's (1966) earlier universalism and case-particularism models.

Glenn et al.'s (1970) model contains four fields:

Associative case orientation stands mainly for specific traditionalism, while abstractive case orientation means the application of technological specificity to problems of social and economic organization. (p. 47)

Such a distinction may be found between preliterate or developing cultures, on the one hand, and modern, technological cultures such as those of the developed West, on the other.

Universal orientation, however,

when coupled with associative tendencies . . . tends to base its understanding of group specificity on the basis of ethnic or other hereditary characteristics, real or assumed. (p. 43)

Nationalism or ethnic identity would be examples of associative universal orientation. When universal orientation is abstractive, however, the group is seen "in terms of a strict definition, preferably of a doctrine" (p. 43). A broad-based Leninist doctrine, or even missionary theology
illustrate the abstractive universal orientation.

The fact that interacting cultures (or nations) may fit into different fields of the matrix is not the only reason for conflict: also critical are the effects of the presence (or absence) of one or more mediating structures relevant to an international context.

Glenn et al. (1970) define a mediating structure as "a system of ideas . . . either actually or potentially shared by the parties in the conflict" (p. 37). The first mediating structure is the concept of sovereign state along with its manifestations (i.e., international law, diplomacy, etc.). This structure not only affords some distance between parties likely to have conflict, but also "provides all parties a modicum of similarity in their self-images: countries are states; men are citizens" (p. 38).

The second mediating structure is the notion of a pan-culture, or common culture, which is a result of culture contact and cultural interpenetration. Such a pan-culture provides more chance for similarity among communities than does the sovereign state notion.

The third mediating structure requires no cultural overlap or interpenetration and is characterized by
institutions whose members are not exponents of their own nation or culture but who are expert in that of the other, thereby permitting a two-way flow of information, particularly where the institution is bilateral, as is the case with many student exchange programs.

The matrix and mediating structures of the 1970 model become meaningful in the context of communication:

The nations whose cultures come closest to a potential pan-culture (i.e., the most culturally abstractive, and among those the most case oriented) are likely to become aware of areas of community of interests sooner than nations with cultures more distant from the potential pan-culture (the more associative, and among those the more case oriented). This suggests that actions viewed as favoring common interests by the more advanced cultures must be carefully communicated; otherwise they will be viewed as favoring divergent interests, and therefore as hostile, by the less advanced cultures. (p. 47)

Hence, not only does the use of this model enable one to be more sensitive to the problem of "extrapolation to other cultures of assumptions generally accepted in the culture of the extrapolator," but also to better "distinguish between conflicts of interest and conflicts of understanding and to separate the conceptual frameworks from which these conflicts are viewed" (Glenn, et al., 1970, p. 48).
Man and Mankind

In Glenn's *Man and Mankind* (1981), the fruition of several decades' work, a cognitive approach is once again taken to the problem of intercultural communication. Glenn's focus is also on "collective structures," that is, on cultural or collective units of analysis.

Glenn (1981) first elaborates on the characteristics of associative and abstractive cultures. Associative cultures are characterized by associative or paleo-particularism (as previously discussed) and a narrower frame of reference, while abstractive cultures possess a greater level of universalism and a broader frame of reference.

Glenn makes these qualities of associative and abstractive cultures more meaningful and explicit with regard to communication by matching them with Tönnies' (1940) sociological formulation of Gemeinschaft-Gesellschaft. According to Glenn (1981):

*Gemeinschaft* is based on generally implicit, traditional and/or affective bonds. Social solidarity is felt rather than decreed; it finds its expression in a feeling of common belonging, at times in friendship—or, as is seldom emphasized, in enmity—both of which can be ritualized. Thus, it is diffuse, affectively expressed; in the terminology of this work, it is associatively based.
Gesellschaft is based on explicit laws. The very explicitness of laws and regulations makes it impossible to take into account the vagueness of feelings; in consequence society seeks to be affectively neutral. It is this explicitness, formally defining the boundaries of the society and of behavior within it, which argues for considering this form of organization abstractive. (p. 15)

Glenn (1981) also explains the evolution from associative to abstractive societies—with specific emphasis on communication:

An expansion of the social frame of reference, either because of an increasing size of the population, or because of an increase in the diversity of experiences which need to be reported, leads to a decrease in the proportion of the context shared between subgroups of the community and between its individual members. Common meanings based on common experiences can no longer insure the commonality of meanings in language, ritual, law, and ultimately the world view, by the development of commonly accepted definitions. A codification of culture by such shared definitions calls for a development of explicit rules, including statements about language. This, by definition, amounts to the development of abstraction. (p. 17)

On the cultural level, with specific concern for communication, one may not only see isomorphisms between Glenn's associative-abstractive dimension and that of Tönnies (1940), but also with the linguistic dimensions of Bernstein (1964) and Hall (1977). For both Bernstein's restricted and elaborated codes and Hall's high- and
low-context communications, it is precisely the broadening of a culture's frame of reference, as Glenn observes, that transforms the nature of human communication. Restricted codes, or high-context communications--both characterized by common assumptions, shared identifications, and known contexts that evoke a wealth of very similar meanings in smaller populations--give way, as experience broadens and populations grow, to the elaborated code, or low-context communications, that are more explicit, flexible, and less dependent on known contexts, thereby giving their users the ability to absorb more diverse information.

The bulk of Man and Mankind (1981) is devoted to the explication of Glenn's tripartite model of meaning, "a model of information development and integration" (p. 27). (See Appendix B). This model moves beyond the more basic associative-abstractive polarity by demonstrating that information for cognitive processes derives from three distinct sources: the individual, the social unit, and the environment. These sources take the form of the subjective, co-subjective and objective apeces of the model, respectively. It should be mentioned that it is not possible to realize any of these apeces fully; rather, the question becomes to what degree information derives from one (or more) of these sources.
At the subjective apex, the individual is viewed as the ultimate particular, "and the ultimate particular in communication is the attempt to communicate the ineffability of personal experience" (p. 29). However, Glenn's usage of this apex shifts from the individual to the group unit of analysis:

Practically speaking this (subjectivity) will mean the communicative characteristics of small intimately acquainted groups, with a high level of shared contextual background. (p. 29)

The co-subjective apex is defined as:

the greatest possible communicative universality. A symbolic system shared by as many people as possible, both in space and in time, would have to be characterized by total symbol stability across subjects and in time; in other words the meanings attached to its symbols would have to be invariant, constant in time, and the same for all communicating subjects. (p. 29)

Finally, the objective apex is characterized by behavior across a number of people that is minimally influenced by subjective or co-subjective considerations. In other words, in an identical situation different persons would exhibit the same nonverbal behavior in response to an environmental task.

Glenn and others (e.g., Carter, 1978; Witmeyer, 1978) treat these apexes as distinct cognitive styles. The
integration of the associative and abstractive cognitive styles into this new formulation is seen most meaningfully in terms of individual or collective movement between these three apeces, or cognitive styles. Just as Glenn determined a direction of evolution from the associative to the abstractive and from paleo- to neo-particularism, he demonstrates a similar evolution, fueled by abstraction, around this tripartite model, from the subjective through the co-subjective to the objective.

A culture's evolution from subjectivity to co-subjectivity is tied to the broadening of that culture's frame of reference and increasing size (population). This sort of enlargement calls for greater codification of language via the abstraction of personal or small-group experiences. That is, within a smaller group communication is facilitated not only by proximity but by the greater level of common experience and shared meaning. At the same time, language within such groups need not be overly precise because even an intimation or suggestion can trigger common meanings.

However, when the group becomes larger and makes contact with or absorbs strangers, the common meanings of the smaller group as well as the suggestive power of more
imprecise, personal language can no longer be taken for
granted. If meaning is to be shared in these larger, more
heterogeneous groups, the meanings of words--meaning within
language--must become more fixed as well as abstract to
accomodate the different peoples with their different ex-
periences and meanings that the group is now in contact and
communication with.

Glenn (1981) warns, however, that in opposition to
this abstractive tendency toward the co-subjective is an
associative tendency toward subjectivity:

Yet if social communication needs determine
a movement from subjectivity toward co-subjectivity
in some societies, psychological needs determine
movements in the opposite direction in the very
same societies. Central to these needs is the
need for expressing the inexpressible--the in-
effability of personal experience.

In the same way in which the evolution toward
cosubjectivity determines universal concepts
through abstraction from particular experiences,
the reaction against this evolution seeks to de-
rive the feeling of particularity and even unique-
ness by suggesting associations. The prime
examples of this technique can be found in fiction
and in poetry. (p. 33)

Movement between the co-subjective and objective
apeses is also characterized by abstraction. Glenn offers
myth as an example of a co-subjective belief system that is
not too closely tied to the objective world and is not
necessarily shared by others outside a given culture. According to Glenn (1981) two means are available to a culture to increase the external acceptance of its belief system. The first involves an elaboration of those beliefs:

This is done by basing the beliefs on increasingly general underlying principles; there is an attempt to logically prove the validity of the beliefs. Beliefs are no longer presented as a series of descriptive statements as in a story, but are presented as a logical argument in which conclusions logically follow from previous premises. (p. 37)

He states that it is the "systematic and impersonal logic" of such elaborated beliefs that facilitates their acceptance by others outside the culture (p. 37).

The second means of enhancing acceptance of one's beliefs is to subject them to "the use and incorporation of objectively-derived information as a source of validation" (p. 37). Where such validation fails to support the myth or belief, the belief is changed in an abstractive, thesis-antithesis-synthesis manner.

Glenn (1981) holds that movement in either direction between the objective and co-subjective aspects involves abstractive thought. One is either subjecting an idea or belief system to observation to see if it is universally
acceptable, or is moving abstractively in the opposite
direction by needing to fit particular observations into a
communicable conceptual framework. Note the former progres-
sion is identical to the movement from universalism to neo-
particularism discussed previously. In essence,

the objective apex involves particularistic
thought while the co-subjective apex tends
toward universalism. A culture's understanding
of the objective world can be either paleo-
particular or neo-particular, depending upon
the extent to which abstractive thought is
emphasized in the culture and correspondingly
on the extent to which the co-subjective apex
is developed and influences the perception of the
objective. (p. 41)

The final area of movement is between the subjective
and objective apexes. Concerning progression toward the
objective pole:

ideas must be tested against the objective
environment; this requires action. An action
necessarily requires a decision, i.e., the
definition of the action to be undertaken.
While all ideas can be entertained, all actions
cannot be performed. Furthermore, the environ-
ment will reinforce or allow some actions and
not others. In constant and often subtle ways,
the environment will reinforce certain courses
of action over others. Patterns of behavior
will emerge. These patterns are well defined
in the sense that action A means doing one
thing and not doing another at that time and
place. This delineation is a mark of
abstraction—-one action has been abstracted out
of a myriad of possible actions. (p. 42)
This abstractive movement may be counterbalanced or mitigated by movement from the objective toward the subjective. For example, a regression into that "myriad of possible actions," to entertain a number of ideas about the environment when none has to be acted upon, is the mark of an associative movement towards the subjective apex.

The fundamental tension in the model can be seen, however, if one relates association to the subjective pole and abstraction to the other two poles:

As one moves away from subjective sources of information to either those of co-subjectivity or objectivity there is a concomitant need for abstractive thought. As one moves in the opposite direction, there is an increase in associative thought. Abstractive thought characterizes movement in either direction between the co-subjective and objective apexes.

Glenn (1981) summarizes the nature of the model with recourse to a culture's evolution "around" it:

The main cause of evolution (where it does take place) appears to be the amalgamation of relatively small communities into broader societies, followed in some cases by an increase in social mobility within such societies. The resulting increase in contacts between individuals determines the direction of change; commerce between relative strangers calls for the definition of universal codes of communication and legally permissible behavior, that is to say to an increase in co-subjectivity. Clashes between different co-subjective systems--
different world views—may be resolved by a recourse to the arbitration of an impartial judge: the scientifically apprehended objective reality. The resultant discovery of new ways of behaving in contact with objects (science, technology, economic, and administrative organization) lead to new subjective experiences. These, in turn, must be codified in up-datings of the co-subjective system. (p. 48)

A careful reading of Glenn, particularly of the tripartite model, is likely to be confusing from the standpoint of his units of analysis. A concluding thought of Glenn's (1981) may help to clarify this issue:

The primary purpose in using the triangular model has been to obtain a set of concepts applicable in the analysis of social structures, of cultures and subcultures, of individual minds, and of situational contexts, including those resulting from culture contact. (p. 311)

He is seeking a conceptual framework applicable to a number of units of analysis.

Despite the conceptual nature of Glenn's work and the seemingly interchangeable nature of the units of analysis, his tripartite model is amenable to operationalization and quantitative research.

Carter (1978), for example, developed an instrument to measure the subjective, co-subjective, and objective
cognitive styles (the Preferred Cognitive Style Inventory). These measured styles were correlated with students' scores on seven achievement tests, and a number of significant correlations were found. This particular study was done with children in a single cultural context.

Witmeyer (1978), on the other hand, used Glenn's styles in an intercultural context. Upon associating the subjective, co-subjective, and objective cognitive styles respectively with Arab, Russian, and U.S. representatives to the United Nations, Witmeyer sought manifestations of these cognitive styles in the speakers' persuasive styles. Three trained judges, working with isolated paragraphs of 1967 United Nations Security Council records, did in fact make the above-mentioned associations of cognitive style and nationality.

Witkin and Glenn: A Comparison

The work of Witkin and Glenn is clearly similar when one looks at the nature of their essentially bipolar cognitive style dimensions. According to Glenn (1982a) there is no substantive distinction between the field-dependent-independent dimension and the associative-abstractive dimension:
Both should be defined as oppositions between the inability and the ability of subjects to avoid being misled by task irrelevant information. (p. 1)

What is more, Glenn (1982a) considers Witkin's perceptual tests of field-dependence-independence suitable for operationalizing the development (or evolution) from associative to abstractive:

Perceptual differences such as those in the rod and frame test or the embedded figures test are described in terms of field dependence and field independence. They can quite as easily be described in terms of association and abstraction: in the associative and/or dependent mode the subject fails to distinguish the task relevant from the task irrelevant inputs; such a distinction is the core of the operation of abstraction and also of the state of field independence. (p. 2)

Also common to the Witkin and Glenn schools of thought is the realization that the process of psychological differentiation (a la Witkin) or the development of abstraction (a la Glenn) involves perceptual and conceptual differentiation which necessitates hierarchical integration of percepts and concepts. The manner in which differentiation and integration are combined is not unique to the work of Witkin and Glenn. It is also the central thought, for example, of Werner and Kaplan's (1963) developmental approach to symbol formation.
The work of Witkin and Glenn, however, is not similar in all regards. For example, an area of marked contrast in their work is their treatment of the seemingly concomitant evolution of cognitive style and culture. For Glenn, evolution from an associative to an abstractive cognitive style is made necessary by the increasing amounts of information that either the individual or the culture must absorb. For the subsistence-level culture models offered by Witkin and his associates, however, evolution from one cognitive style to another concerns an individual's or culture's socialization and progression toward optimal adaptation to the environment. Sahlins and Service (1960) highlight an implication of approaches such as those pursued by Witkin:

Adaptive improvement is relative to the adaptive problem; it is so to be judged and explained. In the specific context each adapted population is adequate, indeed superior, in its own incomparable way. (p. 15)

This statement, at first glance, seems more relativistic, more value-neutral regarding the evolution of cognitive styles than Glenn's views. Such a discrepancy in value-neutrality between Witkin and Glenn seems insurmountable until one recalls an earlier statement of Glenn's: namely, that an associative culture (or individual)
abstracts in areas where its abstractive structures are established (1969). Whether a culture is technologically primitive or sophisticated (by Western standards), both have abstractively perceived and manipulated their environments even though, for example, one culture relies on hand-dug holes in the dry earth to obtain water while the other culture uses artesian wells and modern irrigation hardware.

In conclusion, Glenn views the associative-abstractive and field-dependent-independent cognitive style dimensions as highly similar. Also, both writers' cognitive style dimensions involve the differentiation and integration of percepts and concepts. Finally, Witkin and Glenn discuss contrasting ideas regarding cultural evolution and the related evolution (or development) in cognitive style: Glenn emphasizes that it is the amount of information a culture needs to absorb that necessitates a change in cognitive style; Witkin suggests that adaptation to a specific context determines a predominance of one cognitive style over another.
transaction because percepts are meaningful only in terms of individual (or collective) past experience: the input of information from the environment is understood only in light of the individual's recollections of things previously experienced. With this realization, Glenn defines "form-givers" as the individual's imposition of form (evolved on the basis of previous experience) on indeterminate perception.

Glenn (1969) then proceeds to use this notion of form-givers to define cognitive structures as "clusters of associated inputs from the environment [as determined by one's form-givers] and outputs of the subject" (p. 32).

According to Glenn (1969), three types of input-output associations are possible:

(a) various modes of object input lead to the same subject output (as when both a word and food lead to salivating); (b) various modes of subject output are actuated by the same object input (as when the subject acts upon an object and also names it for the benefit of the co-subject); and (c) the input from the environment actuates only some but not all of the available types of subject action (as when a stimulus is strong enough to bring about an image or a word associated with an object action, but not strong enough to bring about the object action itself). (p. 32)

In essence, the three types of subject output suggested
above correspond, respectively, to: (1) objective responses (the strongest since an object action is brought about); (2) co-subjective responses (that involve sharing reactions via communication with others); and (3) subjective responses (the weakest, in that they only represent a personal, perhaps ineffable reaction, as opposed to concrete object action or shared language).

Glenn's 1969 usage of the terms objective, co-subjective and subjective is somewhat different than in his triangular model of 1981. In both 1969 and 1981 these three poles have stood for distinct sources of meaning. In this 1969 usage, however, they seem to refer to three types of associations of input and output within the subject, irrespective of abstraction. If this is the case, in his 1981 work the role of abstraction is much more clearly specified with regard to each of the three sources of meaning.

Glenn and Learning by Association

Glenn (1982b) views conditioning, be it classical or operant, as "a basis for an associative development in knowledge... It [conditioning] is based on the coincidence between two or more inputs of experience" (p. 5).
Glenn (1969) illustrates learning by association (i.e., conditioning) by use of a two-step sequence: First, an "unconditional reflex" or response may be elicited if and only if the subject is in an appropriate context or state. That is, one has to be hungry if one is to salivate (the unconditional response). Second, Glenn argues that another stimulus can be associated with the unconditional stimulus (the stimulus responsible for the unconditional reflex). Here, two possibilities arise: the associated stimulus may be as strong as the unconditional stimulus, or weaker. For example, assume the unconditional stimulus is a cheeseburger, and the unconditional response is salivation. The associated stimulus may be a televised commercial for cheeseburgers. One may either salivate at the television or simply have fond recollections of a recent cheeseburger; the former response is stronger than the latter. It is this difference of intensity in response that underlies Glenn's (1969) discussion of the nature of cognitive structures. In addition, one can see that the associated stimuli may be objective, co-subjective (in the sense of a verbal message), even subjective (i.e., simply thinking about cheeseburgers) in nature, and depending on context, produce responses of varying intensity.
In his 1969 work, Glenn does not yet talk of objective, co-subjective, and subjective cognitive styles. He does, however, discuss objective, co-subjective, and subjective sources of meaning. Each of these is also used to describe a distinct type of response. These three types of responses may reflect the underlying, opposing cognitive mechanisms of association and abstraction:

In the case of association—for example of Pavlovian conditioning of the most classical type—the "before" is a subject responding only to the one stimulus (or one group of stimuli), the "after" a subject responding in addition to another stimulus. Thus, there is an addition or association. In the experiments of concept formation the subjects are confronted with a number of simultaneous stimuli, some of which they know to be relevant to the pattern of behavior to be learned, while some other ones are irrelevant. The learning consists in separating the two and (at least in theory) in rejecting or eliminating the irrelevant stimuli. There is subtraction or abstraction. (pp 34-35)

One can see in Glenn's earlier (1969) material ties to cognitive development in the individual, as well as a simultaneous concern for the cognitive characteristics of culture. What is more, one can also examine the beginnings of Glenn's basic bipolar dimension of cognitive styles, the associative-abstractive continuum, and see glimmerings of the later and more intricate tripartite formulation of cognitive styles (the objective, co-subjective,
Witkin and Cognitive Development in the Individual

As was noted in the Chapter II discussion of Witkin, the nature of a group's adaptation to a particular ecological setting as well as that group's socialization practices are believed to account largely for the presence of a given cognitive style. In addition, the belief that field-dependent and independent persons have a predominance of either interpersonal or cognitive restructuring skills, respectively, thereby reflecting the different "developmental investments" made, was presented. Nevertheless, one major issue regarding cognitive development in the individual remains in need of presentation: the changes in the degree of psychological differentiation which accompany individual maturation, and the concomitant stability of that level of differentiation during maturation.

Witkin, Goodenough, and Karp (1967) predicted an increase during maturation in differentiation. They also predicted that this rate of increasing differentiation would be relatively stable during individual development because:

formal or structural features of an individual's psychological makeup are likely to show considerable
stability over time as compared to content features; differentiation is of course a structural property of a psychological system. (p. 292)

The researchers found three things: First, a distinct increase in the level of field independence was seen, suggesting that the increased presence of differentiation, which is characteristic of field independence, may be a feature of maturation. Second, both field dependent and independent subjects showed a leveling off by age 17 of the degree of psychological differentiation, suggesting the completion of a maturation process. Third:

despite a marked general increase in differentiation in perceptual functioning with age, each individual tends to maintain his relative position among his peers in the distribution of measures of differentiation from age to age. (p. 297)

Hence, a stability in development (in relation to other subjects) of the "structural features of an individual's psychological makeup" could be inferred.

Witkin's Ties to Structural Literature on Cognition

Witkin and many of those following his lead view differentiation in terms of structural properties of one's psychological make-up. Berry (1976) views Witkin's notion
of "differentiated cognitive functioning" (p. 28) as involving not only perceptually disembedding or breaking down a field into constituent elements, but also of conceptually analyzing and restructuring or integrating those elements into a new hierarchical conceptual scheme.

It was the realization that there had to be some functioning or process responsible for the level of differentiation (i.e., the structural state of the individual's cognition at a given time, concerning a given topic or context) that gave rise to the notion of a cognitive style. The structural implications of this concept of differentiation are not unique, however, to the work of Witkin (and Glenn). As Berry (1976) summarizes:

Other workers in the area have emphasized different aspects of cognitive differentiation. Bieri (1961, 1966) for example has employed the concept largely to refer to the number of dimensions used in making judgments, and this meaning is consistent with the work of Kelly (1955). Harvey et al. (1961) however tend to employ the term in a similar manner to Witkin, defining differentiation as the "breaking of a novel, more undifferentiated situation, into more clearly defined and articulated parts" (1961: 18). Lewin (1951) employs the term to refer to the number of distinct elements in a psychological region, while Scott (1963: 277) uses it to refer to "the distinctiveness of the elements which constitute the set" of cognitive elements. Although it may be argued that these meanings differ one from another, it is possible to discern a common theme which is consistent
with the meaning Witkins assigns: All imply
the separation of cognitive structures into
discrete units whether they be dimensions,
spaces, elements, or components. (pp. 28-29)

Similarly, Zajonc (1960) defines a cognitive struc-
ture as "an organized subset of a given cognitive universe
in terms of which the individual identifies and discriminates a particular object or event" (p. 159). Zajonc's four structural dimensions are: differentiation, complexity, unity, organization--dimensions that again account not only for a breaking down of stimuli but for the subsequent conceptual relationship among those stimuli as well.

Summary Regarding Cognitive Development and Structure

It has been shown throughout Chapter II as well as
III that the formulations of cognitive style employed by
Witkin and Glenn (and their followers) rely heavily on ideas regarding cognitive development in the individual.

In addition, implicit in the intercultural treat-
ments of cognitive style and the intracultural treatment of
individual cognitive development reviewed thus far has been
a reliance on structural variables of cognition, particu-
larly differentiation and integration. These two structural
variables of cognition have also been similarly defined in
the work of other scholars focusing on the structure
of cognition.

The balance of this chapter is a presentation of several essentially intracultural treatments of the cognitive style concept also based on cognitive structure and development, that offer a number of contrasts when compared to the work of Witkin and Glenn.

Other Formulations

Cohen

Cohen (1969) defines cognitive styles as "methods of selecting and processing information" (p. 829). Cohen, much like Witkin and Glenn, formulates a bipolar notion of cognitive style:

The analytic cognitive style is characterized by a formal or analytic mode of abstracting salient information from a stimulus or situation and by a stimulus-centered orientation to reality, and it is parts-specific (i.e., parts or attributes of a given stimulus have meaning in themselves). The relational cognitive style, on the other hand, requires a descriptive mode of abstraction and is self-centered in its orientation to reality; only the global characteristics of a stimulus have meaning to its users, and these only in reference to some total context. (pp. 829-930)

Cohen sees these two styles as mutually exclusive. Note that abstraction is not solely a function of the analytic
cognitive style. This is different from Glenn and Witkin in that abstraction for them is characteristic of only one of their two basic cognitive styles. Rather, for Cohen, two types of abstraction are envisioned, one relevant to (and characteristic of) each style: a self-centered, descriptive mode of abstraction vs. one that extracts salient information from the external environment.

Another unique feature of Cohen's work concerns the relationship between cognitive styles and social factors. In essence, Cohen adds a sociological dimension to Kagan et al.'s (1963) bipolar cognitive style dimension. She very explicitly indicates that shifts in cognitive style may not be entirely contingent on cognitive development so much as an individual's interaction in a given type of social group at a given time. She defines two types of family and friendship groups: (1) formally organized groups and (2) shared-function groups. A formally organized group is characterized by: formally defined intragroup functions; formally organized and constant group interaction patterns; relatively stable, hierarchically organized status relationships; and the focus of individual identity within the group attached to explicit group functions and organized principles.

A shared-function group, on the other hand, is characterized by: widely shared intragroup functions;
fluid, changing interaction patterns; fluid, not necessarily hierarchical status relationships; and a fluid as opposed to focal individual identity within the group.

An individual's family group and friendship group may both be either formally organized or shared-function. These two groups may, however, be different. Either way, Cohen (1969) explains:

When individuals shifted from one kind of group structure to the other, their modes of group participation, their language styles, and their cognitive styles could be seen to shift appropriately to the extent that their expertise in using other approaches made flexibility possible. It appeared that certain kinds of cognitive styles may be developed by day-to-day participation in related kinds of social groups in which the appropriate language structure and methods of thinking about self, things, and ideas are necessary components of their related styles of group participation and that these approaches themselves may act to facilitate or impede their "carriers" ability to become involved in alternate kinds of groups. (p. 831)

An interesting implication of this thought is that, using Cohen's conceptualization, differences in cognitive style (that are contingent on social group) can be discerned intra- or interculturally. Such a realization may help researchers keep from reifying one cognitive style for one given culture, another style for a second culture, etc. Rather, researchers are reminded that whether or not the
situation is intercultural, people may in fact be quite fluid in their cognitive styles in a situation-dependent fashion. This realization seems to be much more explicit in Cohen's work than in Witkin's or Glenn's.

Cohen's research focused on school children and how poor school performance may be more indicative of "culture conflict" (meaning a conflict in cognitive styles) than on material or educational deprivation. Cohen's notion of culture conflict may be exemplified by highly relational pupils from poorer socioeconomic communities who have trouble performing well in a wealthier, highly analytic school setting. In the process of studying such differences in a society's school children, Cohen (1969) formulated four response types to her testing:

(1) high-relational pupils who were poor achievers and who had been socialized in, and were at the time of testing, participating in shared-function friendship groups; (2) high-analytic pupils who were good achievers and who were socialized in and continue to participate in formally organized primary groups; (3) middle-range relational and analytic pupils who were middle-range achievers and who had been socialized in one type of family and were then participating in the other type of friendship group; and (4) a conflict pattern (high-analytic abstracters but high field dependent) who were middle-range achievers and whose shared-function formal-group style responses were uniquely mixed. (pp. 833-834)
These response types are useful not so much because they are based on the fundamental analytic-relational bipolarity, but because they represent an attempt to more precisely interpret interpersonal differences in and combinations of cognitive styles with more than an either-or, bipolar option.

Perhaps Cohen's most helpful remarks for the purpose of this research is her discussion of abstraction and communication. It has already been stated that for Cohen abstraction is a function of both the relational and analytic cognitive styles. She found, however, that communication between analytic and relational subjects is best when the communication is kept on a concrete level. The implication is that the relational subject cannot readily comprehend an analytical, external stimulus-oriented mode of abstraction, just as the analytical subject cannot easily make sense of relational, self-oriented abstraction. Cohen states that this is exactly what is wrong with highly abstractive nonverbal tests of intelligence--they are unfair to relational subjects, whether used intra- or interculturally.

Further implications of this incompatibility between these two cognitive styles and types of abstraction
regarding intercultural or socioeconomic comparisons are fairly obvious: For example, a Western technical manual may be just as incomprehensible to a relational non-Westerner as that non-Westerner's elaborate belief system of his/her place within a mythic ontology is to the analytical Westerner.

This notion of the mutual incompatibility of the two basic cognitive styles as well as the inability to communicate effectively if different types of abstraction are utilized is not at odds with Cohen's belief that people may switch styles in a situation-dependent manner. Recall Cohen's remark that subjects make shifts "to the extent that their expertise in using other approaches [makes] flexibility possible" (p. 831). Assuming one is flexible enough to adapt, his/her cognitive styles as well as communicative styles change to fit the situation. This notion of adaptability bears subtle resemblance to one of Adler's (1976) criteria for what constitutes "multicultural man"; namely, the ability to consciously recognize differences in thought, language, etc., and adjust to those differences.

Kagan, Moss, and Sigel

Kagan et al. (1963) also define two basic cognitive styles or "orientations": egocentric and stimulus-centered.
Their egocentric cognitive style is:

based on the individual's personalized, affective classification of a group of stimuli and/or the inclusion of aspects of the subject as part of the conceptual grouping. (p. 206)

Kagan et al. (1963) define the stimulus-centered cognitive style as "based on aspects of the external stimulus; the individual's personal feelings are not part of the categorization" (p. 206).

There is more here, however, than a simply bivalently. Kagan et al. (1963) also outline three conceptual categories (and response types) that are applicable to either the egocentric or stimulus-centered cognitive styles:

1. The analytic-descriptive category "includes concepts that are based on similarity in objective elements, within a stimulus complex, that were part of the total stimulus."

2. The inferential-categorical category "includes concepts that are not directly based on a particular objective attribute of the stimuli, but involve an inference about the stimuli grouped together."
3. The relational category "includes concepts that are based on a functional relationship between or among the stimuli grouped together" (p. 206).

Kagan et al. believe the relational response involves the least amount of abstraction, but to form an analytic descriptive response subjects must abstractively separate figure from ground (i.e., differentiate). However, with a relational response such separation is absent—the entire relatively undifferentiated figure and ground have one meaning.

An example will help to illustrate these distinctions among conceptual categories subsumed under either cognitive style: an analytic-descriptive response characteristic of the egocentric cognitive style might be, "They're wearing the same clothes as me." An analytic-descriptive response characteristic of the stimulus-centered cognitive style would be, "They're wearing identical pants, shirts, and ties." One can see the reference to self with the egocentric response, whereas with the stimulus-centered response there is great specificity regarding external stimuli.

What is refreshing about Kagan et al.'s formulation of cognitive style, much like Cohen's, is that it offers
more than a bipolarity. Although based on a bipolarity, one could easily decide to view each of these six response types as distinct cognitive styles. In addition, Kagan et al.'s formulation (also like Cohen's) allows a greater role for abstraction than does either Glenn's or Witkin's work by allowing for varying degrees of abstraction under each of the two basic orientations (egocentric and stimulus-centered).

The role of abstraction is not the only point of similarity between Cohen's work and that of Kagan et al. Implicit in Cohen's research was the view that people shift cognitive styles in a situation-dependent manner. Evidence that may support this view was found by Davis (1971) who, while testing the reliability of Sigel's (1967) Cognitive Style Test, found that:

less than one-third of the sample responded in a majority fashion in accordance with one particular style. Instead, individuals organized and categorized the SCST-Form A stimuli in a number of stylistic ways. This finding suggested that cognitive style is not a unitary process for an individual and that, instead, an individual's pattern of responses may be the relevant variable to consider rather than single styles independently. (p. 1456)

Sigel (1969) agreed with this remark by Davis and suggested that the probability of a person's approaching a task in a
given (cognitive) manner is subject to personal and situational conditions:

Finally, Davis (1971) found that:

the analysis of individual response patterns across the grade levels resulted generally in multiple cognitive style preferences, with this being particularly evident for the older individuals in the sample. This latter finding was inconsistent with the expectations of the previous developmental research and further accentuated the need for a reexamination of the assumptions regarding the theoretical nature and development of cognitive styles. (p. 1458)

Such findings remind one that people may indeed utilize a number of cognitive styles, and that patterns of cognitive style use should therefore be investigated. In addition, one can infer from these findings that the origins of cognitive style use may be as situational as developmental.

Although these other two formulations have suggested minor conceptual differences from Witkin and Glenn (e.g., with the role of abstraction), these formulations too are founded upon bipolar dimensions and conceptualizations of how cognition develops.
CHAPTER IV

SUGGESTIONS FOR FUTURE RESEARCH

The purposes of this research are to provide a critical assessment of several treatments of the cognitive style concept and offer suggestions regarding that concept's use in future intercultural communication research. Thus far, the research reported in this thesis has served to present, interpret, and compare the work of Witkin and Glenn, along with several other scholars who have followed their lead in research dealing with the cognitive style concept. The broader notions of cognitive development and cognitive structure which underlie both Witkin's and Glenn's handling of the concept have been identified and discussed. Finally, two other major formulations of cognitive style were discussed in order to: (1) demonstrate the diversity of cognitive style formulations; and (2) offer comparisons to Witkin's and Glenn's formulations of the cognitive style concept.

While a number of questions have been raised throughout this research concerning the intercultural
treatments of cognitive style, this concluding chapter assesses those treatments. The intent of this assessment is to guide future use of the cognitive style concept in intercultural communication research.

Reification

In a review of the historical development of personality typologies and traits, Vernon (1973) warns that constructs such as cognitive style may "come dangerously close to psychological stereotypes" (p. 139). That is, such concepts may become reified in the minds of scholars and researchers who pursue the subject.

Babbie (1983) defines reification as "the process of regarding as real those things that are not" (p. 107). Similarly, Kaplan (1964) calls reification "the mistake of treating a notational device as though it were a substantive term" (p. 61). For example, discussions of "field-independent people," a phrase pervasive in Witkin's work (see especially Witkin, 1978; Witkin & Goodenough, 1977), may inadvertently foster certain stereotypes on the part of the reader. The reader must bear in mind that the phrase "field-independent" is a notational device—that is, a convenient label to facilitate communication. On a substantive level, however, it must be realized that the
expression "field-independent people" means "people who are field-independent to X degree in these contexts."

This discussion of reification is intended only as a caution to the newcomer to cognitive style literature and not as a criticism of some of the major figures in that field. The caution here is not to get caught up in the terms as though they had reality in and of themselves. Rather, attend to the qualifications of that term as operationally determined in specific contexts within given cultures.

Prevalence of a Bipolar Cognitive Style Dimension

Every cognitive style formulation discussed in this research either constitutes, or is based upon a single bipolar dimension. Witkin (1967) talks synonymously of either the global-articulated or the field-dependent-independent cognitive styles. While Cohen (1969) formulates four distinct response types, these four types are based on the bipolar dimension with analytical or relational cognitive styles at the polar extremes. Similarly, while Kagan et al. (1963) define three conceptual classes, these are applicable to the single continuum defined at the poles by either the egocentric or relational cognitive
styles. In Glenn's (1981) work, cultures may have subjective, co-subjective, or objective cognitive styles at various points in their histories, but it is still the bipolar mechanism of association versus abstraction that characterize a culture's movement from one of these cognitive styles to another. In essence, the cognitive style formulations presented in this research are bipolar and thus unidimensional. None of the researchers have dealt with a genuine multiplicity of cognitive style dimensions: only Davis (1971) has approached the possibility that cognitive style may be a multidimensional concept.

If intercultural communication research is to employ the cognitive style concept, it is suggested that attention be given to other than bipolar cognitive style formulations. Rather, intercultural communication research should explore, as Davis (1971) suggests, the possibility of "multiple cognitive style preferences" (p. 1458). In addition, intercultural communication research should address the issue of whether such multiple cognitive styles are constant across cultures or if some styles are unique to particular cultures.

The effect of such areas of research on the process of intercultural communication can only be advantageous.
To appreciate the possibility of, and perhaps even antici-
pate, the use of a number of cognitive styles in one's
intercultural counterpart is to reduce, or more speedily
recover from, the gaps in comprehension that plague inter-
cultural communication.

**Flexibility in Cognitive Style**

Whether one is utilizing one of the bipolar formu-
lations of cognitive style discussed in this thesis or
some future multistyle formulation, the manner in which an
individual switches from one cognitive style to another
warrants attention. This switching may occur quickly in a
situation-dependent manner, or slowly in an evolutionary
fashion. In Glenn's work, it is the increase in information
needed by an individual or culture that determines the emer-
gence of one cognitive style over another. In Witkin's
school of thought, it is the role of socialization and the
process of adaptation to a given environment that account
for the predominance of one style over another. Both
Glenn's and Witkin's bipolar cognitive style formulations
hinge on the increased utilization over time of one style
as opposed to the other. If one is to assume, however, that
individuals use a number of cognitive styles, as Davis
(1971) has suggested, and if one recognizes that these
styles are manifested (i.e., used) constantly (as multiple style preferences on an instrument would indicate), there must be some form of switching or movement from one cognitive style to another that is situational and fluid—not steadily evolutionary as Glenn's thinking suggests, or resulting from achieved socialization or adaptation to an environment, as Witkin's thought suggests.

If the cognitive style concept is to have utility in intercultural communication research, attention should be given to the manner and contexts in which cognitive styles are switched. Cohen (1969) has remarked that cognitive styles shift when subjects go from one type of social group to another. A distinct question for future intercultural communication research arises from this observation: The variety of factors (including different types of social groups) that cause switches in cognitive style should be explored, and if these factors vary interculturally. The value of beginning to answer this question is again anticipatory with regard to the process of intercultural communication: If such differences in cognitive style switching exist and are problematic in intercultural communication, the possibility of anticipating and avoiding difficulties caused by such discrepancies should be improved if one understands the differences in question.
Finally, it must be determined if there are any factors that not only enhance the fluidity of cognitive style switching but consciousness of when an adaptation or change in cognitive style would be beneficial to intercultural communication. That is, a search should be undertaken to determine how people are, or can consciously become through training, adept at switching their own cognitive styles to match those of their counterparts in intercultural communication. Intercultural communication research might productively explore if and how such cognitive style adaptability can be cultivated so as to better prepare people for the uncertainties of communicating interculturally.

Reliance on Differentiation and Integration

The formulations of cognitive style covered in this research have relied heavily on the cognitive structural variables of differentiation and integration. Differences in cognitive style have been postulated to rest on:

1. Greater or lesser abilities to perceptually differentiate and conceptually integrate stimuli (implicit in all cognitive style treatments covered);
2. Development of greater levels of differentiation and integration (particularly noticeable in Glenn's work);

3. The focus of differentiation and integration on an internal or external stimulus environment (following Witkin's definition as well as that of Kagan et al.).

It would seem that the cornerstone for defining differences in cognitive style is structural. That is, the processes by which thought is organized are inferred from an examination of the structural state of an individual's cognition at a given point in time regarding specific subject matter. Moreover, the structural foundation underlying differences in cognitive style has been derived from research concerning cognitive development in the individual. In other words, ever greater levels of differentiation and integration, which have been specified as chief indicators of cognitive development, distinguish one cognitive style from another. One is left to wonder, however, if other means of defining cognitive styles that transcend structural (and thus developmental) indicators can be devised.
Abstraction

If researchers are to stick to more traditionally defined notions of cognitive style where levels of differentiation, integration, and abstraction determine differences in cognitive style, a broader role might still be allowed for abstraction. It is possible that abstraction may be a characteristic of any cognitive style, as Cohen (1969) and Kagan et al. (1963) suggest by their application of abstraction to both of their bipolar cognitive styles. This is in contrast to Witkin and Glenn who associate abstraction with only one of their two basic styles. What is more, if one is to pursue and determine a "number of stylistic preferences," as Davis (1971) urges, abstraction may characterize any number of cognitive styles.

The field of intercultural communication is flexible enough in scope to accommodate descriptive research on how abstraction is operative in different cognitive and communicative styles. Intercultural communication research should also investigate the possibility of areas of human interest and activity that are implicitly abstract irregardless of cognitive style and how such interests are communicated "across" cognitive styles.
At the same time, however, intercultural communication researchers must heed Cohen's (1969) finding that communication between individuals of different cognitive styles is best if that communication is kept on a concrete (as opposed to abstract) level. Intercultural communication research should explore the question of what is involved in moving from an abstract to a more concrete level of communication. Whether or not this movement reflects a shift in cognitive styles, the question of consciously controlling and improving the ability to move from abstract to concrete communication styles should be explored.

Factors Accounting for Cognitive Style

Given the material presented in this research, it is conceivable to suggest that the type of cognitive style utilized rests on a number of factors: (1) the development of psychological differentiation; (2) the degree and focus of abstraction; (3) socialization practices; (4) general environmental constraints; and (5) immediate situational constraints.

Intercultural communication research utilizing the cognitive style concept must be guided by the suspicion, voiced by Gruenfeld and MacEachron (1975), that the
question of the determinants of cognitive styles is indeed a very open question, and that many determinants may be operative in a manner contrary to any desire for parsimony.

Cognitive Content

Even if one works with a bipolar, unidimensional formulation of cognitive style where the differences in cognitive style across cultures are seen as relative differences in location along a style continuum, there is also the possibility of differences in focus. That is, in addition to investigating the degree to which Culture A manifests more of one cognitive style (and less of the other) than Culture B, one can ask what areas are typically the focus of a given cognitive style in a particular culture. (For example, in what areas are Culture A's abstractive structures well established?)

Thus, if one were to compare the cognitive styles of two cultures to see how, say, those two cultures are abstractive, one should utilize situations in each culture that demonstrate that culture's ability at abstractive thought. In other words, the unique foci of abstraction in each culture should be determined prior to cross-cultural comparison, rather than expecting one culture's
abstractive foci to be those of another culture.

To determine the foci of one cognitive style of a bipolar formulation is to seek out that specific set of cultural features that would be reflected in cognitive content for that particular culture. Such a determination of culture-specific features across two or more cultures may have one of two possible outcomes. First, it may insure more equivalent contexts across cultures in which to study the utilization of a particular cognitive style of a bipolar formulation. This outcome assumes the validity of the bipolar cognitive style dimension for the cultures examined.

Second, one may discover that one or the other cognitive style of a given bipolar formulation is not adequately descriptive of how a culture organizes its thought regarding a given topic or content area. That is to say, without the assumption of validity regarding a particular cognitive style dimension, one may be left in a position of needing to define new, possibly culture-specific cognitive styles. In essence, it is the examination of cognitive content that may serve as the point of departure for defining any number of new cognitive styles.
To formulate new cognitive styles in this manner would be to redefine and enlarge the general cognitive style concept. Whereas the concept of cognitive style has traditionally addressed only the processes by which thought is organized, the enlarged cognitive style concept would encompass the possible effects of cognitive content (i.e., those topics or important areas of a specific culture's experience) on the processes by which thought is organized.

Benedict (1934) suggests what is meant by comparing cultures on a content level, determining what is crucial to each:

In culture too we must imagine a great arc on which are ranged the possible interests provided either by the human age cycle or by the environment or by man's various activities. . . . Its identity as a culture depends upon its selection of some segments of this arc. Every human society everywhere has made such selections in its cultural institutions. Each from the point of view of another ignores fundamentals and exploits irrelevancies. One culture hardly recognizes monetary values; another has made them fundamental in every field of human behavior. In one society technology is unbelievably slighted even in those aspects of life which seem necessary to ensure survival; in another, equally simple, technological achievements are complex and fitted with admirable nicety to the situation. One builds an enormous cultural superstructure upon adolescence, one upon death, one upon the after-life. (p. 24)
Traditional cognitive style theory (i.e., Glenn, 1981; Kagan et al., 1963; Witkin, 1967) tends to disregard such differences in cognitive content. Using Glenn's (1981) associative-abstractive dimension as an example, Culture A might be considered to have a more elaborate system of monetary values than Culture B because Culture A is more abstractive in that regard. Culture B, however, may have a more advanced technology than Culture A because technology is Culture B's abstractive domain. The same illustration could be made using field-independence, which Glenn (1982a) clearly relates to abstraction.

One may learn two things when using such bipolar cognitive style formulations interculturally. First, one can gain a sense of the degree to which a culture utilizes one style of a bipolar formulation. Second, one can see that a given cognitive style may have different foci in various cultures.

However, there are questions that cannot be answered if one uses bipolar cognitive style dimensions: namely, if and how the focus (i.e., cognitive content) of a particular style effects the nature of that style. For example, one must ask if there is simply one way to be abstractive (regardless of content), or if there are
different ways to be abstractive, or if abstraction is even relevant.

Intercultural communication researchers should be aware of these implications of traditional cognitive style formulations. Future research should also explore the option of multiple cognitive styles that may be determined, at least in part, by cognitive content. That is, attention should be paid first to what people are likely to think and communicate about in a particular culture (i.e., cognitive content), then to the possible effects of such content on any stylistic preferences and consistencies in cognition and communication.

**Formulating Cognitive Styles--Methods**

Whether one wishes to seek evidence of currently formulated bipolar cognitive styles or tries to formulate new ones in cross-cultural research, one should look first at the cultures in question to determine what, on a content level, is critical or characteristic of those cultures. Only then should one try to infer how those cultures utilize various cognitive styles to organize that critical material.

This approach suggests the "radical cultural
"relativism" of Berry (1974):

This position entails the rejection of assumed psychological universals across cultural systems, and requires the generation from within each cultural system (emic approach) of any behavioral concept which is to be applied to it. (p. 225)

Given Berry's (1974) approach, it is suggested that whether or not one rejects bipolar cognitive style formulations, the door should be left open for the determination of perhaps many more broadly-defined and culture-specific cognitive styles.

Whereas Berry (1974) advocates an entirely "emic" approach to intercultural research, Jones (1982) offers a different approach—one that allows more room for cross-cultural comparisons. Jones suggests that intercultural research begin with emic analysis and eventually proceed to etic cross-cultural comparisons only when equivalent situations (or in this case, equivalent cognitive styles) across cultures are determined.

Regarding cognitive style research, two possibilities present themselves: First, the cognitive styles specific to two cultures may be so different that one has to stop with emic analysis, as Berry (1974) suggests. This eventuality would serve to explicate the links
between cognitive style and culture-specific cognitive content.

Second, two cultures' cognitive styles may be comparable, allowing etic comparisons to be made, as Jones (1982) suggests. In this second case, one could determine how two or more cultures were field-dependent or independent relative to one another, for example.

Note, however, that both of these possibilities are amenable to the cataloging of multiple cognitive styles, be they culture-specific styles or a greater number of styles (more than a bipolarity) that seem to be manifested in a number of cultures. It is possible that one's cognitive style profile of a culture may include styles believed to be culture-specific, on the one hand, and styles believed to be found in a number of other cultures, on the other. Further, note that it is the preexisting theoretical framework of cognitive style--one that accommodates an examination of both cognitive content and process--that allows one the flexibility to consider the cognitive styles of cultures in isolation (emic approach) and perhaps then in comparison (etic approach).

It is suggested that future intercultural
communication research utilize such an expanded theoretical framework of cognitive style.

Conclusions

In essence, this chapter has addressed a number of the limitations inherent to the bipolar cognitive style formulations reviewed in this thesis. The cognitive style concept would be of greater utility to future intercultural communication research if those limitations are transcended by these means:

1. guarding against the reification of existing bipolar cognitive styles;

2. allowing for the possibility of multiple cognitive styles and situation-dependent switching of those cognitive styles;

3. treating abstraction as a (possible) characteristic of any cognitive style;

4. moving away from the cognitive structural and developmental variables of differentiation and integration in defining cognitive styles;

5. realizing there may be many factors accounting
for the utilization of particular cognitive styles.

These five guidelines, however, offer more than the rectification of certain limitations: They make it clear that there is room to more broadly define the cognitive style concept to encompass the possible effects of cognitive content on the processes by which that content is organized.
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APPENDIX A

VARIABLES EFFECTING THE DEVELOPMENT
OF DIFFERENTIATION
Figure 1. Clustering of four factors considered to be antecedent to development of psychological differentiation by H. A. Witkin, and J. W. Berry, *Journal of Cross-Cultural Psychology*, 1975, 6, 17.
APPENDIX B

GLENN'S TRIPARTITE MODEL OF MEANING