

THE RELATION OF STATUS AND
NON-VERBAL BEHAVIOR TO THE
COORDINATION OF SPEAKING TURNS

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ABSTRACT

THE RELATION OF STATUS AND NON-VERBAL BEHAVIOR TO THE COORDINATION OF SPEAKING TURNS

By

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This study focuses upon the relation between status, non-verbal behavior, and the coordination of speaking turns. It was assumed that status is directly related to the initiation of speaking turns. A review of previous research led to four proposals relating non-verbal behavior and taking of speaking turns. First, a speaker is indicated by receiving eye gaze, a nod, head orientation, or a gesture from another person or persons. Second, a person signals that he is going to speak by shifting his head, arm, or body position. Third, during a pause a speaker maintains his turn by displaying "floor-holding signals," such as a verbal "ah," lowering eyes and/or head, gesturing, or shifting body position. The fourth proposal is that a speaker signals the ending of his speech by raising his head, looking at another, relaxing his hand and arm position, or shifting his body position. Status was assumed to be related to the coordination of speaking turns; the high status person both gives and receives the most eye gaze,

head orientation, nods, and gestures. He is also the most likely to exhibit floor-holding signals. Simultaneous speaking (two people talking at once) was assumed to be related to both the status system and non-verbal behavior. Simple overlap occurs when one or both speakers violate the non-verbal signals of completion or floor-holding. Interruptions, on the other hand, are acts of dominance; therefore, the high status person both interrupts and resists interruption more than lower status persons.

Video tapes of two three-man discussion groups were used as a data source. In the experiment a status system was established by telling group members they were of high, medium, or low ability at doing problems of the type they were to discuss. A coding system was developed to record eye, head, hand and arm, and body position. The tapes were transcribed and the non-verbal behavior of the subjects recorded below the transcript. The supposed status of the members was not known by the coder of the tapes. The beginning and ending of utterances, pauses, and times of simultaneous speech were specifically watched. The number of times specific persons exhibited the non-verbal behaviors related to the coordination of speaking turns was tabulated.

The assumed relationship between verbal initiation rates and the imposed status system is not found. Two of the proposals relating non-verbal behavior to turn-taking are supported and two are not. A new speaker does frequently shift his head

arm, or body position at the beginning of speech (second proposal). Movements also occur extensively during a pause (third proposal). On the negative side, completion signals (fourth proposal) and signals indicating (first proposal) the next speaker occur for less than half of the speaking turns. Many utterances are not really completed but overlapped or interrupted. The relation of status to non-verbal behavior is confused. The high status person does receive the most cues to speak although he does not always speak the most. Findings on who gives the most signals are inconsistent between the two groups. Persons of lower status who are high in verbal initiation use floor-holding signals the most. Overlaps relate to the giving of completion signals by the speaker. He usually regains his turn. The tendency to interrupt is related not to the imposed status system but to verbal initiation rates; however, the tendency is not strong. The interrupter usually gains the turn.

The results of this study must be considered in light of the very small number of persons and groups studied. Definite conclusions cannot be drawn from so small a sample. Status does seem to be somewhat related to the coordination of speaking turns although a better measure of status is needed. Non-verbal behavior also appears to be related to the coordination of speaking turns. However, people vary as to how well they both give and attend to non-verbal signals.

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If there be any merit to this work, any wisdom or knowledge contained in these pages, may the Lord God be praised.

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CHAPTER 1

INTRODUCTION

Whenever two or more people speak to each other their conversation needs to be coordinated so that only one of them speaks at a time. Thus, we refer to speaking turns; one person talks and then the other speaks when the first has finished. Human beings appear to have established a procedure for coordinating speaking turns, although that procedure is not specifically taught as is grammar. Few people seem consciously aware of how they determine when it is or is not their turn to speak. Yet, times of simultaneous speaking, two people talking at once, occur only a small percentage of the time.

In an attempt to discover how speaking turns are determined, this study focuses upon two dimensions: status and non-verbal behavior, that are suggested in current literature on communication to be related to verbal participation. Basically, an attempt will be made to show that there are specific non-verbal behaviors that regulate speaking turns and that the occurrence of these behaviors varies with the status of the people involved.

Bales et al., (1951) found that there are unequal rates of verbal participation among members of task-oriented groups, especially those groups where there are status differences. But stating that the high status person has the highest verbal

participation rate does not explain the mechanism that coordinates the taking of speaking turns.

Argyle (1969: 72) states that verbal communication is dependent upon non-verbal signals for its coordination. "Interactors have to take it in turns to speak and listen, and speech itself cannot be used to decide who shall speak and for how long." Although personal differences of individuals as to how much they talk certainly affect verbal participation rates, Schefflen (1972) contends that listeners have a definite part in regulating by their actions who speaks in a group. "It seems likely," states Argyle (1969: 230), "that people communicate as much as the rest of the group wants and permits them to, and that non-verbal reinforcements by the group control the rate." Hence, in order to understand how speaking turns are regulated and coordinated in a conversation, attention will be focused on the non-verbal behaviors of both speakers and listeners.

Basically, the purpose of this research is to investigate how verbal interaction in a group is influenced by the non-verbal behaviors that vary in frequency according to the status of the group member. Four questions will be dealt with:

- 1) How do status differences relate to verbal participation?
- 2) What non-verbal behaviors coordinate speaking turns?
- 3) How often do persons of different status exhibit these non-verbal behaviors that coordinate verbal participation? and
- 4) What happens when coordination fails and two people speak at the same time?

CHAPTER 2

THEORY AND LITERATURE

For many years research on communication dealt solely with speech, but the last decade brought an increased awareness that communication involves much more than words. Communication, as Schefflen (1972: 7) defines it, is "... all of those behaviors that foster, regulate, maintain, and make possible the communal or social order." Using such a definition, research has been done on the use of space, gestures, posture, facial expressions, and eye contact in the communication process. These types of non-verbal behavior relate to verbal behavior in a number of ways. According to Knapp (1972), non-verbal behavior may repeat, contradict, complement, accent, relate, regulate, and substitute for verbal communication. Schefflen (1972) sees kinesic behavior as qualifying, modifying, directing, and instructing about the verbal communication in process. Argyle (1969: 72) states that "... non-verbal signals make verbal exchanges possible..." by communicating attention and responsiveness, by regulating speaking turns, by expressing attitudes, by illustrating, by serving as emblems, and by expressing feedback on degree of understanding. Rendon (1972) and Ekman and Friesen (1969) express similar views of the function of non-verbal behavior.

Feedback plays a major role in the full communication process and gesture clusters are important feedback. They indicate from moment to moment and

movement to movement exactly how individuals or groups are reacting non-verbally. We can learn whether what we are saying is being received in a positive manner or a negative one, whether the audience is open or defensive, self-controlled or bored.

(Argyle, 1969: 14)

Goffman (1959) suggests that people may use what they consider to be the ungovernable aspects of another's communication, i.e., his non-verbal behavior, as a check on the validity of his governable, or verbal aspect. Similarly, Mehrabian (1971: 45) says "... touching, positions (distance lean, or eye contact), postures, gestures, as well as facial and verbal expressions, can all out weigh words and determine the feelings conveyed by a message."

Recently researchers in several different fields...

... have focused their attention on the sequence of events taking place during social interaction - at the level of bodily contact and proximity, facial expression, bodily posture, and gestures, hand movements, and direction of gaze, the verbal and non-verbal contents of speech. They looked at what happens in social encounters in more detail, and in a more concrete way than had been attempted before.

(Argyle, 1969: 13)

Knapp (1972: 3-9) contends that this type of approach is necessary because "... non-verbal communication cannot be studied in isolation from the total and inseparable unit." Birdwhistell (1960) believes that the most productive research in kinesics has related the non-verbal to the verbal communication. According to Nirenberg and Galero (1971), it is difficult to understand the meaning of a gesture when it is isolated from its context. They also emphasize that it is important to understand how gestures relate to each other and in what sequence, because different body movements may contradict each other's

meaning. James (1932: 417) suggests that ...

... the various factors are not of equal weight for the determination of the total expression, nor do they contribute in the same way to the specific meaning put upon the total posture. In this respect the generic meaning of the position of the trunk is of most importance because reflexly it tends to determine the position of the head and the distribution of the weight of the body. The position of the head is in itself significant because it indicates the line of regard. The arms and especially the hands are ... indicatory gestures.

Using a different approach, Kendon (1972) shows how movements relate to the sound patterns (phrases, locutions, locution clusters) of the verbal message. Regardless of the exact procedure, all of these researchers stress the importance of looking for relationships and sequence in the communication process.

Going back to Schefflen's (1972) definition of communication, it is evident that the study of non-verbal behavior aids the understanding of how the social order is regulated and maintained. Sacks (1972: 327) believes that social norms "... are part of the communicative code which governs our perceptions of speech." We teach children the fine details of grammar and vocabulary yet neglect, for the most part, the non-verbal aspects of communication. This neglect hampers effectiveness in communicating, for there are many factors to which the successful speaker must attend. As Argyle and Kendon (1967: 56-7) suggest, the effective speaker...

... must be on the watch, then, for signs of emotional disturbance in his acquaintance, which might signal that he had said something that might provoke an argument. At another level he might be on the lookout for signals that his acquaintance is ready for him to talk

or for him to listen. He must make sure his tone of voice and choice of words, his gestures, and the level of involvement in what he is saying is appropriate for the kind of occasion and the encounter.

Thus, the study of the role of non-verbal behavior in the communication process is a complex, but needed, investigation.

The Relation of Status to Verbal Participation

Proposition 1: The highest status person will have the highest verbal initiation rate, the middle status person the next highest rate, and the low status person the lowest verbal initiation rate.

Bales et al., (1951), Morfleet (1948), and Bass (1949) all found that the persons with the highest initiating rates are typically ($r=.95$) rated by others in the groups as the persons with the best ideas and ability to guide the discussion. In a study where status was determined by the subject's or subject's husband's occupation, Strodbeck et al., (1957: 718) reported that in a mock jury situation "... persons of higher, in contrast with lower, status occupations have higher participation, influence, satisfaction, and perceived competence for the jury task." Because competence brings status, in a task-oriented group the group member who has been told he is more competent than his fellows at the task will be accorded high status and allowed to dominate the verbal participation in the group. Following Bales' et al., (1951) findings, the person second in competence should also be second in initiating verbal participation. In this study, a status system was imposed upon the group by an experimenter telling the subjects their level of competence at the task.

The Relation of Non-Verbal Behavior to the Coordination of Speaking Turns

While the concept of a "speaking turn" is generally considered to be the interval of time a person speaks, Zimmerman and West define the term as a bounded period of time during which a person has the right to speak. Defining a turn as a right to speak has at least three consequences. First, a person's right to speak may be violated, i.e., another person may speak out of turn (interrupt). Second, others may participate in the speaker's turn by completing a thought for him. A third consequence of defining a turn as a right to speak is that periods of silence are considered to belong to someone. If a speaker pauses, and then continues talking, the silence during the pause belongs to him. But if a speaker has finished, the silence belongs to the next person who speaks. Thus, it becomes very important to examine non-verbal behaviors that occur during periods of silence which indicate who has the right to speak, i.e., whose turn it is.

In a study of dialogue, Feldstein (1972) found that when people could not see the person they were speaking to, the conversational time patterns were significantly altered in rather complex ways. The reason for this change, according to Argyle (1969: 72), is that "... verbal utterances proper are closely dependent on non-verbal signals, which keep the speaker and listener attending properly to each other, sustain the smooth alteration of speaking and listening, and add further information to the literal message transmitted." Duncan (1972: 283)

suggests that "... there is a regular communication mechanism in our culture for managing the taking of speaking turns in face-to-face interaction." The mechanism, he says, consists of behavioral signals and cues that integrate the actions of the persons involved in interaction. "There are rules for taking and terminating a turn at talking," states Goffman (1971: 3-4); "there are norms synchronizing the process of eyeing the speaker and being eyed by him; there is an etiquette for initiating an encounter and bringing it to an end." In addition to eye movements, nods, and changes in body and head positions are thought to regulate speaking patterns (Argyle and Kendon, 1967). However, Argyle (1969) warns that these regulating signals are probably learned and, hence, may vary according to social class and culture; thus encoding of them may be somewhat arbitrary. However, the subjects of the research cited and of this study are all white, middle-class, and British or American.

While Feldstein (1972) found that person's conversational behavior is somewhat stable, it does vary according to the behavior of the person with whom he interacts. Thus, individuals in conversation seem to adjust and synchronize their behaviors (Schefflen, 1972). The present study focuses on the process of patterning and synchronizing, to determine its relationship to the exchange of speaking turns.

Kendon (1967) gives a detailed analysis of how non-verbal behavior, particularly eye gaze, is synchronized with the flow

of the verbal message. He describes the usual procedure as follows:

... A looks away when he starts to speak, probably because he is planning and organizing the utterance and does not want distracting input. He looks B in the face at grammatical breaks, probably to make sure B is still listening and following, and that he is willing to let A continue talking. B will probably nod his head and say 'uh-huh' or something similar; at a hesitating passage or speech errors, A will look away, presumably so that he can reorganize the utterance. Just before ending the utterance A looks up, in order to get feedback on how B is reacting to it - whether he agrees, thinks it is funny, etc.

(Argyle, 1969: 149)

In this study the focus is on the sequence of behavior that occurs at certain critical junctures; the beginning of a speaking turn, pauses or hesitations by the speaker, signals of listeners both attending and requesting a speaking turn, and the ending of a speaking turn. I propose that there are specific movements of the eyes, head, hands and arms, and body that characterize each of these junctures in the flow of conversation. Not all of these may occur at any one particular time; one behavior may substitute for the others. The particular behavior displayed may be somewhat ideosyncratic i.e., one person may use eye gaze to hold the floor and another may use gestures. But how the specific body part is used determines the non-verbal message that coordinates the turn-taking.

Proposition 2: A speaker will be indicated by one or more of the following cues:

- a) receiving eye gaze from another person(s)
- b) receiving a nod from another person(s)
- c) having another person(s) orient his head toward the speaker
- d) receiving a gesture from another person(s)

When people come together there is the problem of who will speak first. At each subsequent pause the problem again arises. Goffman (1963) observes that interaction often begins with a period of eye contact which seems to signal a readiness to interact. Kendon (1967: 23) agrees. "It seems that it is through mutually held eye gaze that two people commonly establish their openness to one another's communication." Listeners, according to Schefflen (1972) elicit speech by addressing another with their bodies and eyes. Kendon (1972: 208) states that "... positioning of the head, limb, or body can clearly serve as an advance warning of what is to come and may be part of the system of 'floor-appointment' signals which assist in regulating interchanges between interlocuters." Kendon (1967) also writes that a new speaker is often indicated by a sustained gaze and characteristic hand position of the former speaker. "Likewise, Wiesbrod (1965) in a study of the distribution of visual attention in a seven person discussion group, found that the person whom the speaker last looked at before ending was more likely than other members of the group to speak next, and she concludes that looking can serve to coordinate group action by controlling the succession of speeches." (Kendon, 1967: 56). Dittmann and Liewellyn (1968: 83) state that a "... change in direction of gaze appears to be a cue given by the speaker in addition to junctures in his speech which may elicit responses in the listeners." Thus, the eyes, the head, and the arms all are, at one time or another, used to signal who has the next turn at speaking.

Proposition 3: A person will signal that he is going to take a speaking turn by one or more of the following cues:

- a) shifting body position
- b) shifting head position
- c) shifting arm position

In the movement that preceded speech, the head, or limb, or perhaps the whole body is brought to a new position from which the movements that specifically accompany the speech are made. This positioning of the head, limb, or body, can clearly serve as an advance warning of what is to come and may be part of the system of 'floor-appointment' signals which assist in regulating interchanges between interlocutors.

(Kendon, 1972: 207)

Kendon (1972) also reports that approximately nine seconds before his subject started speaking, he would make a shift in his posture, often a substantial one. Such changes in body position are also noted by Schefflen (1964) at points of change from one communicational activity to another. This shift often results in the speaker leaning forward, but sometimes the shift is in a lateral direction (Kendon, 1972 and Schefflen, 1972).

In all cases, Kendon's (1972) subject moved his head into a characteristic "start" position either before or as he started speaking. This position was with the head erect and central or cocked somewhat to the right. But because his study is done on one British gentleman in conversation with an experimental accomplice, this position may be idiosyncratic to this person and not generalizable to an American population.

Schefflen (1972) notes that in an informal discussion the speaker will bend forward and place one or both hands, or perhaps a cigarette in the space in front of him while he is speaking. Kendon (1972) also found that a distinct arm position is

assumed before speech actually begins. In most instances, the position involves the raising of the forearm. Again, however, this particular position may be idiosyncratic. It must also be noted that just because a person signals his desire for a speaking turn, does not guarantee he will be granted the right to one. Consequently, data from Proposition 3 will be considered in light of data from Proposition 2 (cues indicating speaker).

Proposition 4: During a pause, a speaker who wishes to continue speaking will display one or more "floor-holding" signals, such as the following:

- a) using "ah," "um," etc.
- b) lowered eye gaze
- c) lowered head position
- d) gesturing or maintaining gesture in mid-air
- e) shifting body position

During the course of speaking, the speaker may at times hesitate, perhaps for the purpose of collecting his thoughts (Hendon, 1967), yet wish to retain his turn, his right to speak. Mackay and Gogood (1959) suggest that "ah" and its variations have the function of keeping the floor for the speaker when he hesitates. During these periods of hesitation, the speaker also avoids eye contact with others by lowering his head and eyes (Hendon, 1967). Being engaged in gesturing or keeping one's hand out in space are also ways speakers attempt to keep the floor (Schefflen, 1972 and Duncan, 1972). According to Hendon (1972: 207), "... it seems likely that the communicative contribution of this movement (gesture) will have more to do with holding the recipient's attention and keeping him forewarned of the sort of things the speaker is

likely to say next, then with assisting in the transmission of details concerning what is being said." Dittmann (1962) claims that extraneous movements of feet, hands, and the body are associated with hesitation pauses. Because meeting the eye of another gives the other the right to speak, eye contact is avoided by lowering the head and eyes. Maintaining hand and arm movements seems to symbolize stopping time until the speaker is ready to talk again. Thus, there should be a relation between verbal "floor-holding" signals and non-verbal ones, although as mentioned previously, one person may hold the floor by gesturing and another by lowering his eyes.

Proposition 5: A speaker will signal the completion of his speaking turn by one or more of the following cues:

- a) raising his head to the horizontal
- b) looking at another person
- c) relaxing his hand and arm position
- d) shifting his body position

Kendon (1967: 35) reports that a speaker looks up at or just before the end of an utterance, "... usually during the last phrase and he continues to look up thereafter." This looking up appears to signal an offering of a turn to the one looked at. He states that when such a looking up does not occur, there is a delayed response, or no response, 71% of the time. Schefflen (1972: 50) reports that "... at the end of a point, the speaker generally changes his head and eye position. Sometimes he makes a postural shift." Duncan (1972) regards the termination of a hand gesture or the relaxing of a tensed

hand position to be ways by which a speaker yields his turn. Thus, before a speaker finishes talking, he gives signals to others that he is completing his turn. This advanced signaling contributes to a smooth exchange of speaking turns without lengthy delays.

Not only do specific non-verbal behaviors coordinate speaking, certain behaviors characterize listening as well. Nielson (1964), Ekline (1963), Kendon (1967), and Wierenberg and Galero (1971) all write that a person looks at others more when he is listening than when he is speaking. According to Argyle and Dean (1956), the ratio of looking while listening to looking while talking is 2.5 or 3:1. In addition, listeners exhibit longer periods of gazing than do speakers, with the latter only looking occasionally and for a short time. Although listeners look at the speaker, Schefflen (1972) states that it is improper for them to stare into the speaker's eyes. Proper listeners sit quietly, nod, cock their heads, and make short comments when the speaker pauses (Argyle, 1969; Goffman, 1971; and Schefflen, 1972). "In rapport, the speaker and listener will often 'synchronize' i.e., they will sit in the same posture and more synchronously." (Schefflen, 1972: 53).

But listeners are not always attentive and certain signals are thought to indicate a person's desire to speak. "Weisbrod concluded that to look at someone while he is speaking is to signal a request to be included by him in discussion and that to receive looks back from the speaker is seen as a signal from the speaker that he is including the other." (Argyle and Kendon,

1967: 74). Tugging on an ear, placing an index finger to the lips, and flicking the hand upward a few inches are suggested by Hirenberg and Galero (1971) to be signals of a desire to speak. About 50% of the coincidental vocal and nod responses recorded by Dittmann and Liewellyn (1968) indicate a listener's wish to interject a comment or question. Thus, the desire to speak may be signalled by looking at the speaker, by gestures, or hand-to-head movements, and nods, as well as by verbal attempts to "get a word in."

Speakers do not always respond to non-verbal requests to be included in the conversation. Three methods of exclusion are reported in the literature. Turning away from someone signalling a request for inclusion indicates that his request has no support (Schefflen, 1972). The two individuals vying for a turn can engage in a type of stare-down until one withdraws. Or, the speaker can keep his eye from being caught by the one making the request. Goffman (1971: 14) has an interesting comment upon the significance of catching another's eye.

By not allowing pedestrians to catch his eye, a driver can keep them in a hesitant condition. By ostensibly failing to read a course sign that has been pointedly given him, one driver can force another driver to fall back or accept a 'chicken' challenge. By 'catching' the eye of a driver, another can gesture a request (for example to cut into a line of cars from a side road, or pull out into traffic) for which no effective body gesture is available.

The Relation of Status to the Coordination of Speaking Turns

Proposition 6: The high status person will dominate verbal participation because he will give and

receive the most signals of communication coordination.

Mehrabian (1972: 14) regards status as "... a major determiner of social interaction patterns among humans." In an earlier work, Mehrabian (1971: 32) writes that:

Generally, the option to increase or decrease immediacy by initiating or terminating a conversation is left to the person of high status. It is not surprising that when we are addressed by someone of high status, we tend to be attentive and responsive; failure to do so would be a sign of disrespect. On the other hand, when a lower status person initiates a conversation, the high status one is not required by custom or his own necessities to be overly responsive or to have eye contact with him. He can quite legitimately even turn to one side and seem to be listening without showing much reaction to what he hears.

The status a person holds in a group defines what behaviors he can and cannot display. As Goffman (1961: 99) states...

... when an individual makes an appearance in a given position, he will be the person that the position allows and obliges him to be and will continue to be this person during role enactment. The performer will attempt to make the expressions that occur consistent with the identity imputed to him; he will feel compelled to control and police the expressions that occur.

Thus, a person considered to be of high status will be allowed and expected to display certain types of behavior, while those of lower status will be expected to display different and complementary types of behavior. Both Schefflen (1972) and Henley (1973) suggest that non-verbal behavior serves to maintain and foster order in the social system. Therefore, a person assigned to a high status position will play the role of a high status person and those given a low status position will play their complementary role.

Proposition 61: The high status person will receive the most eye gaze, head orientation, and nods.

Numerous studies show a correlation between high verbal participation, high status, and being looked at a great deal. Partly this relation is due to listeners looking at the speaker, and the high status person is often the most frequent speaker (Argyle, 1969). Mehrabian (1971: 5) writes that "... in a conversation group, the person most frequently addressed directly and looked at by the speakers is almost certainly the best liked, most admired, or most respected member." Weisbrod (1965) found that "... individuals who were looked at most ... in the group saw themselves and were seen by other group members, as being more powerful in the group than those who were looked at less" (Argyle and Kendon, 1967: 74). Mehrabian (1968: 305) also states that there is "... more eye contact with high status addressees than low status addressees." Argyle and Dean (1956) conclude that people appear to be looked at because they are the best liked or valued the most. While the above studies used different definitions of status, they all support the contention that the high status person will be looked at more than other group members.

Closely related to eye gaze is head orientation. Mehrabian (1971) found that the best liked and most respected members of a group are also the ones most often addressed directly, although low status persons are likely to use a lowered head position when listening to a high status person, while raising their heads to speak to the higher status person. Head nodding,

according to Mehrabian and Williams (1969: 56) "... seems also to reflect liking toward the addressee as well as a less confident or subordinate quality of the communicator."

Proposition 6B: The high status person will use eye gaze, head orientation, nods, or gestures to designate the next speaker.

Staring is seen as one way of establishing and showing dominance in a relationship (Nirenberg and Calero, 1971 and Argyle, 1969). It may also be a signal that another has the right to speak (Schefflen, 1972 and Weisbord, 1965). Thus, in a group, members look to the high status person and he signals who will speak next. His signalling may be done with the eyes, head, or hands. Baxter, Winters and Hammer (1968) found that persons who consider themselves adept at the verbal task display more gestures away from the body than do persons who consider themselves less adept. These away from the body gestures may also serve to indicate the next speaker as mentioned above. Competence at the task is the basis of the status ranking in the present study.

Proposition 6C: The high status person will exhibit more "floor-holding" signals such as "ah" "um" etc., lowered head position, gaze avoidance, and maintained gestures than lower status persons.

The ability to hold the floor during a pause is part of the high status person's role of coordinating speaking turns. Mehrabian's findings (1968) that high status persons look less and hang their heads more, plus, Baxter, Winters, and Hammer's (1968) discovery that they gesture more, could all be a function of the high status person displaying more "floor-holding" signals.

Simultaneous Speech

The previous sections dealt with non-verbal cues coordinating verbal communication, and the relation of these cues to the status system. That discussion seemed to imply a well-defined mechanism for determining speaking turns, yet personal experience tells us that speech is not always coordinated. One example of lack of coordination is simultaneous speech, i.e., two or more people talking at the same time. Times of simultaneous speech will be investigated to determine the ways in which their occurrence relates to non-verbal cues coordinating speech and to the status system.

Simmernan and West's definition of a speaking turn as a right to speak means that when simultaneous speech occurs, at least one of the participants has violated someone's right. They enumerate three types of simultaneous speech. First, there may be times when there is no designated speaker and two non-speakers begin to speak at once. Second, a speaker may appear to end his turn (complete a sentence) but when another person starts to speak, the first speaker continues. This is called "single overlap" by the authors. Lastly, a person may interrupt a speaker at a point that could not be considered to be the end of a thought. The term "interruption" is applied only to the last type. Of these three types, the first lies outside the realm of explanation of the propositions in the present study. However, the second and third types are relevant and will be considered.

Proposition 7: The simple overlap type of simultaneous speech occurs because one or both speakers violate the turn-taking mechanism in one or both of the following ways:

- a) the current speaker displays completion signals, then continues speaking (see Proposition 5)
- b) the new speaker ignores floor-holding signals (see Proposition 4) of the current speaker

I propose that the second type of simultaneous speech, which Zimmerman and West call a "simple overlap," results when one of two types of behavior occurs. One is that the original speaker displays non-verbal behaviors indicating completion of a turn. These behaviors, which are discussed under Proposition 5, are raising the head, looking at another, relaxing the hand and arm position, and shifting body position. Duncan (1972) found that simultaneous speech often occurs when the speaker displays a "yielding signal." A yielding signal, according to Duncan (1972: 237), is "... the termination of any hand gesticulation used during a speaking turn." In this case of simultaneous speech, the speaker is the one violating the turn. On the other hand, it is possible that simple overlap may occur because the second speaker violates the non-verbal cues coordinating speaking turns. Duncan (1972) also found that listeners violate the turn-taking mechanism by attempting to take a turn when a speaker has not given any yielding cues. He uses the term "attempt-suppressing signals" instead of "floor-holding" signals. "The attempt-suppressing signal consists of one or both of the speaker's hands being engaged in gesticulation." (Duncan, 1972: 167). "Monitors" is the term

Schefflen (1972) uses to refer to acts of turning or looking away from one attempting to gain a speaking turn. Referring back to Proposition 4, in addition to maintaining gestures and lowering eyes and head, the use of "ah," "um," etc. are also considered floor-holding devices which could be violated by a prospective speaker. However, Duncan (1972: 290) states that "... the display of an attempt-suppressing signal essentially eliminated the auditor's tendency to take his turn, regardless of the number of yielding cues concomitantly displayed." Thus, simultaneous speech should not occur very often when the speaker displays floor-holding signals. Zimmerman and West say that typically in times of simple overlap the original speaker regains the turn.

Proposition 3: The high status person will both interrupt and resist interruption more than lower status persons.

Zimmerman and West's third type of simultaneous speech - interruption - seems to be related to the status system. Their research shows that males and other high status persons are more apt to interrupt, while yielding to interruption is characteristic of females and other low status persons. Although their right to speak is being violated, females do not protest the interruption. Henley (1937) also considered interrupting a signal of dominance and yielding to interruption the corresponding sign of submission. She contends (1973: 18) that "... superiors can more readily interrupt others and more readily resist interruptions by others, than subordinates."

This idea is supported by Bruneau's (1973) statement that superiors often ignore subordinates.

Other factors affecting who dominates during times of simultaneous speech are stated in the literature. In all-male groups, Duncan (1973) found that the person who had been speaking previously has the advantage and usually resists attempts to be interrupted. Schefflen's (1972) emphasis on whom listeners attend to suggests that when simultaneous speech occurs, the speaker attended to by listeners will be most likely to be victorious. Eye gaze, according to Birdwhistell (1960), takes priority over other non-verbal cues in American culture and could conceivably be more important than status or former control in determining who gets the "floor." However, if the high status person is looked at the most, there should be a correlation between the number of times the person receiving eye gaze "wins out" in simultaneous speech. Therefore, I predict that the higher status person (according to the verbal initiating ranking) will gain control of the "floor" at times of simultaneous speech. This ability is another expression of his dominance.

Summary

In order to understand the process of communication it is necessary to attend to not only the spoken word but also non-verbal behavior which occurs during speech. Eye gaze, head orientation, hand movements, and posture are all suggested in literature to function in different aspects of the

communication process. In this paper the focus is on how these movements function in the coordination of speaking turns. The status of the persons involved also has an effect on the communication process and the coordination of speaking turns.

The literature and propositions discussed previously can be summarized in four generalizations. First, verbal participation is directly related to the status ranking in a group. Second, non-verbal signals or cues occurring at certain junctures in a conversation serve to coordinate speaking turns. In other words, there are specific behaviors that the speaker displays at particular places in his utterances that indicate the beginning and ending of speech and who should speak next. The third generalization combines elements of the first two. It is that the high status person will display specific behaviors partly because of his high verbal participation and partly because of his position. The behaviors which he exhibits that are investigated in this study are those which coordinate speaking turns. Lastly, the problem of simultaneous speech is discussed. Overlaps are viewed as resulting from incorrect signalling or the ignoring of signals. The tendency to interrupt and resist interruption are considered as a prerogative of status.

CHAPTER 3

METHOD

The preceding propositions were tested by secondary analysis of video tapes of three-man discussion groups. The groups were composed of white male college students, initially screened for homogeneity of race, age, and apparent social class. They were administered a TIMO scale and those who identified themselves as high or low on verbal participation were eliminated from the experiment. The subjects were given a pencil and paper test that supposedly measured their "social insight" and told that the groups were arranged so that there was a high, moderate, and low ability person in each group. They were also told what their ability level supposedly was. The groups were then given a discussion problem similar to the one used in the pencil and paper test in which they were to decide the case of a juvenile arrested for petty theft. The ensuing discussions, approximately thirty minutes in length, were video taped. These tapes of two groups are the source of the data used in the present study. While the original analysis dealt with the effects of the status manipulation on verbal communication, the present analysis studies primarily how the non-verbal behavior within the group is related to verbal behavior.

Video tapes have been used by most of the current researchers of non-verbal behavior (Duncan, 1972, and London, 1967 and 1972). They allow more detailed and exact study of behavior in the

group than does the observer coding method. "Very useful work can be done by making audio-, video-, or interaction recordings of natural sequences of interaction, and then subjecting them to detailed statistical analysis." (Argyle, (1969: 22). By reviewing the tapes a number of times, it is possible to record the relevant behavior with a great deal of accuracy.

There are, however, certain problems with the video tapes used. Having two cameras showing the action from two different angles simultaneously on a split screen makes it difficult, yet not impossible, to determine whether or not reciprocal eye contact is made. The loss of the depth dimension makes it hard at times to decide exactly what a person is doing kinesically. In the tapes, the subjects are visible from about the waist up so movements of legs and feet are not recorded, and hands are sometimes not visible. Also, while two of the persons are viewed from the front, the third is seen only from the side, so it is not as easy to judge his movements, particularly eye gaze. But, I feel the tapes are still a valid source of data for the propositions to be tested, and the advantages of multiple viewing makes the method a useful one.

Non-verbal behaviors often occur as clusters of movements of various parts of the body. Nirenberg and Calero (1971) emphasize the need to look at gestures in the context of other verbal and non-verbal behaviors in order to understand their meaning.endon (1972) did an extensive analysis of how a

person's body movements relate to his speech patterns. Birdwhistell (1960) goes into great detail in his attempt to show that kenesic behavior is as complex as speech and closely related thereto. The present analysis does not use as detailed a coding system as Kendon's or Birdwhistell's because it does not seem necessary for testing the propositions posed.

Coding System

Verbal Behavior

The status manipulation attempted in each group was described previously. Proposition 1 tests whether or not that manipulation was effective in establishing a status order in each group. Verbal participation was measured by counting the number of times each person initiated a turn. This measure was used by Norfleet (1948), Bass (1949), Bales et al., (1951), and Strodbeck et al., (1957). Interjections such as "uh-huh," "yeah," and "um" are not counted because they do not seem to constitute a speaking turn.

Non-Verbal Behavior

Different researchers use different systems of coding non-verbal behavior. Birdwhistell (1970) has an elaborate symbol system to record minute movements of even eyebrows and fingers. Kendon (1972) classifies movements according to a modification of the American College of Surgeons' descriptions of joint function. Relaxation was Mehrabian's (1968) focus of attention so he uses a coding system that rated posture, hand, and arm

positions according to the degree of relaxation exhibited. The coding of the present analysis incorporated some of Mehrabian's categories and ideas but modified his system to better fit the propositions and data of this study.

Eye Movement: The propositions dealing with eye gaze are concerned with who looks at whom and for how long. They also include statements about when persons do not look at another. Therefore, I recorded eye gaze for each group member according to the following system:

- 1 - Subject looks at group member #1
- 2 - Subject looks at group member #2
- 3 - Subject looks at group member #3
- ↓ - Subject looks down (at paper or floor)
- ↑ - Subject looks up (at ceiling or over the heads of others)
- A - Subject looks away from the discussion area

The last two categories were not originally included but were added because in testing the coding on a tape of a group not used in the analysis these behaviors occurred. This addition was necessary to make the coding system all-inclusive of eye movement.

Head Movements: Mehrabian used a coding system which classifies a head position as raised or lowered according to whether it is ten degrees above or below the horizontal. However, when testing this system on the test group tape, I was unsure what Mehrabian did with a cocked head position. Therefore, I included a "side-tilt" category. Also, exact measurement of the degree of angle was not possible with the tapes used so whether a head position was raised, horizontal, or lowered is an arbitrary decision. Nods were included as a

separate category and are scored once per up-and-down movement. The propositions deal with head orientation toward persons so positions are numbered according to whom a head position is directed. The resulting coding system for head position is as follows:

H - Horizontal (H_n if head is oriented toward member n)
 S - Side tilt
 ↓ - Lowered head position (below the horizontal)
 ↑ - Raised head position (above the horizontal)
 N - Nod (N_n if nod is directed toward member n)

Body Position: Mehrabian and Friar (1969) report that the most reliable index of relaxation is the amount of backward and sideways lean of a subject's trunk. While it did not seem feasible for me to measure the exact number of degrees of lean as they did, I do record the amount of time each subject's trunk deviates from the vertical. Thus, in this research the following system of coding is used for body position:

V - Vertical body position
 F - Forward lean
 S - Sideways lean
 B - Backwards lean

A position was scored each time movement occurs regardless of whether or not the movement ended with the person's body being in a new position because in reviewing the tape of the test group, I found that the person often ended in the same postural position in which he started a movement.

Hand and Arm Movements: Hand and arm movements are difficult to code because of their variety of motion and meaning. I began using Mehrabian's system of coding hands for relaxation and arms for openness. But, these categories proved inappropriate for the propositions tested. For them, arm movements

do not seem to carry a meaning separate from that of the hands so the two parts of the body will be considered together. The propositions and supporting literature were reviewed and all the ways of describing hand and arm movements were listed. The behaviors on this list were then classified according to Mehrabian's (1972) concepts of gesticulations, self-manipulation, and object-manipulation. The category of self-manipulation was divided into movements of the hand to the head and movements of the hand to any other part of the body, because it is my feeling that the two convey different feelings and ideas. I also decided to code each arm separately because there were many occasions when both hands could not be fitted into the same category. There was also a need for a fourth category to record the absence of movement. This category was labeled "relaxation" and will be described below. The test group tape was again reviewed with the sound off and all unique hand and arm movements listed. Items on this list were successfully coded according to the revisions. The revised system, the one used to code hand and arm positions, is as follows:

- G - Gesture: Movement of hand and arm away from the body. Includes side-to-side, up and down, forward and back, and positions maintained in mid-air.
Examples: Hand tosses, shrugs, circular motions
- G_n : Gesture directed at group member n;
pointing
- Self-manipulation: Movement of arm and hand in contact with another part of the body, either directly or mediated by an instrument.
- H - Hand-to-Head: Movements of the hand to the head.
Example: Biting nails

- B - Hand-to-Body: Movements of the hand to other parts of the body.
Examples: Scratching, rubbing, or grooming oneself
- C - Object-manipulation: Movement on object that is not used to mediate stimulation of the person's body.
Examples: Writing, smoking, tapping pencil on chair
- R - Relaxation: Arm and hand not moving but lying loosely clasping chair or body.
Includes arms crossed or hands in lap.

Each arm was recorded separately. A movement was scored each time it occurred and not just when the movement resulted in a change of category.

Procedure

The propositions to be tested deal primarily with the coordination of speaking turns.endon (1972) found that non-verbal cues indicating the beginning and ending of speech occur approximately nine seconds before the actual speech. Consequently my data consists of behaviors occurring immediately before and after the exchange of speaking turns and lengthy pauses (approximately three seconds). However, changes in speaking turns occur frequently in the tapes and most of the turns are short, hence a substantial portion of the thirty-minute tapes for each group are coded according to the system described previously.

The analysis of the tapes began by transcribing the verbal content onto a long roll of paper. A transcript of the tapes had been done previously but numerous errors in it had to be corrected. This roll was divided horizontally into three parts, one for each group member. Non-verbal behavior was then coded

for each member below the transcript. Each member's verbalizations were written on a separate line so simultaneous speech could be easily transcribed and recognized. The coding of the various non-verbal behaviors under consideration in this study was a very time consuming process. Small segments of the tape (approximately 15 seconds long) had to be viewed and reviewed numerous times before all the relevant movements could be properly coded and placed on the transcript "time line." People moved frequently and in complex ways. Thus, transcribing and coding a thirty minute tape often took thirty hours or more. In addition, the constant attention and scrutiny of the tapes which was necessary was very fatiguing, making it difficult to do more than four hours of viewing in a day. Because of the time-consuming character of the analysis, only two discussion groups were analyzed in this study. All coding was done by the author without knowing the manipulated status order of the groups.

After an entire tape had been transcribed and coded, the toll was reviewed and the movements at each change of speakers, pause, or time of simultaneous speech were listed in the tables. The frequency of specific types of behavior was counted and appears in summary form in the tables that follow.

CHAPTER 4

RESULTS

The Relation of Status to Verbal Participation

Proposition 1: The highest status person will have the highest verbal initiation rate, the middle status person the next highest, and the low status person the lowest verbal initiation rate.

The data in Table 1 do not support the proposition that verbal initiation rates (VIR) vary directly with the status that was imposed upon the group. In other words, the attempted status manipulation was unsuccessful in these two groups. In Group 1, the high and middle status persons (H and M) have equal initiation rate, while in Group 2, the low status person (L) had the highest initiation rate while the high and middle status persons are second and third respectively. The #1s in both groups will be referred to as "status seekers" because they initiate more turns than was expected of persons of their rank.

TABLE 1: RELATION OF STATUS TO VERBAL INITIATION RATES

Manipulated Status Ranking	Number of Speaking Turns Initiated			
	Group 1		Group 2	
	Number	Percent	Number	Percent
High Status	49	39%	37	34%
Middle Status	49	38%	31	28%
Low Status	31	24%	41	38%
Totals	129		109	

As mentioned previously, interjections such as "yeah," "right," and "uh-huh" are not considered to constitute a speaking turn and are not included in the verbal initiation rates. However, these interjections were counted. In Group 1, I makes the most interjections (33), H slightly less (30), and L only 2. In Group 2, I makes the most interjections (65), H the next most (25), and L the lowest number (11). Note the wide range in the number of interjections in the second group.

The Relation of Non-Verbal Behavior to the Coordination of Speaking Turns

Proposition 2: A speaker will be indicated by one or more of the following cues:

- a) receiving eye gaze from another person(s)
- b) receiving a nod from another person(s)
- c) having another person(s) orient his head toward the speaker
- d) receiving a gesture from another person(s)

Contrary to the proposition, nods and gestures (Table 2) are almost never used to indicate the next speaker although the two behaviors do occur frequently at other points in the discussion, for example at pauses. Eye gaze is the most frequently used signal while head orientation, which is closely related to eye gaze, is used less often (only 29% of the time). Only 39% of the time does any type of signal indicating the next speaker occur.

In gathering data on signals indicating the next speaker and on signals of completion (Proposition 5), there is a problem because many turns are not really completed before the next speaker begins. Referring ahead to Tables 9 and 10, there are

TABLE 2: FREQUENCY OF SIGNALS INDICATING NEXT SPEAKER

Group	Member	Number of Speaking Turns	Received Eye Gaze From Another		Received Nod From Another		Received Gesture From Another		Received Head Orientation From Another		Received At Least One Signal From Another	
			#	%	#	%	#	%	#	%	#	%
1	1	49	17	35%	1	2%	0		15	31%	17	35%
	2	49	24	49%	0		0		17	35%	26	53%
	3	31	0	0%	0		0		0	0%	0	0%
2	1	41	17	41%	0		0		13	32%	17	41%
	2	31	6	19%	0		0		5	16%	7	23%
	3	37	18	49%	0		0		12	12%	18	26%
Totals and Average		230	90	39%	1		0		70	29%	93	39%

sixteen cases of overlap and twenty-six interruptions out of the 122 speaking turns in Group 1. In Group 2 there are thirteen overlaps and 58 interruptions out of 122 turns. In many, but not all of these cases there are no signals indicating the next speaker.

Proposition 3: A person will signal that he is going to take a speaking turn by one or more of the following cues:

- a) shifting body position
- b) shifting head position
- c) shifting arm position

The data in Table 3 support the contention that a person will signal his intention to speak by shifting one or more body parts. Shifting the head position is the most frequent signal, shifting the arm position the next most frequent, and shifting the body position the least frequent. Although individuals vary as to the degree of signalling and the preferred manner of signalling, on the whole small body movements are used more frequently than large body movements. At least one type of shifting occurs before almost 80% of the speaking turns and often it is the shifting of the head position.

Proposition 4: During a pause, a speaker who wishes to continue speaking will display one or more "floor-holding" signals, such as the following:

- a) using "ah," "um," etc.
- b) lowered eye gaze
- c) lowered head position
- d) gesturing or maintaining gesture in mid-air
- e) shifting body position

Floor-holding signals (Table 4) are used extensively by members of both groups when they pause in their speaking.

thirteen cases of overlap and twenty-four interruptions out of the 100 speaking turns in Group 1. In Group 2 there are thirteen overlaps and 50 interruptions out of 100 turns. In many, but not all of these cases there are no signals indicating the next speaker.

Proposition 3: A person will signal that he is going to take a speaking turn by one or more of the following cues:

- a) shifting body position
- b) shifting head position
- c) shifting arm position

The data in Table 3 support the contention that a person will signal his intention to speak by shifting one or more body parts. Shifting the head position is the most frequent signal, shifting the arm position the next most frequent, and shifting the body position the least frequent. Although individuals vary as to the degree of signalling and the preferred manner of signalling, on the whole small body movements are used more frequently than large body movements. At least one type of shifting occurs before almost 30% of the speaking turns and often it is the shifting of the head position.

Proposition 4: During a pause, a speaker who wishes to continue speaking will display one or more "floor-holding" signals, such as the following:

- a) using "ah," "um," etc.
- b) lowered eye gaze
- c) lowered head position
- d) gesturing or maintaining gesture in mid-air
- e) shifting body position

Floor-holding signals (Table 4) are used extensively by members of both groups when they pause in their speaking.

TABLE 3: FREQUENCY OF SIGNALS PRECEDING A SPEAKING TURN

Group	Member	Number of Turns Indicated	Turns Preceded by Shift in Body Position %	Turns Preceded by Shift in Head Position %	Turns Preceded by Shift in Arm Position %	Turns Preceded by At Least One Signal %
1	1	43	27%	36	73%	61%
	2	49	14%	40	82%	37%
	3	31	6%	20	65%	32%
2	1	41	27%	29	71%	73%
	2	31	6%	21	68%	65%
	3	37	3%	18	49%	51%
Totals and Average %		238	15%	164	60%	53%
						167
						79%

*There are ten times when #3's arm position cannot be seen.

TABLE 4: FREQUENCY OF OCCURRENCE OF FLOOR-HOLDING SIGNALS

Group	Member	Number of Pauses	"Ah," etc. Used	Lowered Eyes Used	Lowered Head Used	Gestures Used	Shift in Body Position	Occurrence of At Least One Signal		
		#	%	#	%	#	%	%		
1	1 (K)	45	24	53%	25	56%	3	7%	42	93%
	2 (H)	43	13	30%	21	49%	19	44%	36	84%
	3 (L)	11	3	27%	4	36%	6	55%	7	64%
2	1 (L)	47	23	60%	23	49%	23	49%	45	96%
	2 (K)	9	2	22%	4	44%	4	44%	3	89%
	3 (E)	36	24	67%	33	83%	6	17%	35	97%
Totals and Average		191	94	49%	144	75%	66	35%	173	91%

TABLE 4A: FREQUENCY OF OCCURRENCE OF FLOOR-HOLDING SIGNALS (REVISED)

Group	Member	Number of Pauses	Gaze Avoidance		Non-Horizontal Position Head Used		Hand in Motion		Occurrence of At Least One Signal
			#	%	#	%	#	%	
1	1 (H)	45	44	98%	26	58%	33	73%	44 99%
	2 (H)	43	28	65%	21	49%	32	74%	41 95%
	3 (L)	11	7	64%	4	36%	8	73%	10 91%
2	1 (L)	47	36	77%	27	57%	41	87%	46 98%
	2 (H)	9	6	67%	5	56%	3	33%	3 33%
	3 (H)	36	34	94%	30	83%	30	87%	35 97%
Totals and Average %		191	155	81%	113	59%	152	80%	104 96%

Lowering of the eyes is the most often used technique. If one includes looking away or up as methods of gaze avoidance, as is done in Table 4A, the percentage of time such signals occur during a pause increases from 75% to 81%. During the analysis it also seemed that object- and self-manipulation served the function of floor-holding in the same manner that gesturing did. Again referring to Table 4A, some form of arm and hand movement occurs 80% of the time during pauses although gestures only occur 35% of the time. Lowering or turning away the head does not occur as often (59% of the time) as do avoiding eye gaze and moving the hands and arms. Shifting of body position appears to be a fairly rarely used floor-holding signal. It should be noted that shifting the body position is considered a completion signal in Proposition 5 and this seems to be a more accurate interpretation of the role of movement of the body in the communication process.

At least one of the original floor-holding signals occurs 91% of the time a subject pauses. If one includes looking away or up, object- and self-manipulation, and non-horizontal head positions, floor-holding signals occur during 96% of the pauses.

Proposition 5: A speaker will signal the completion of his speaking turn by one or more of the following cues:

- a) raising his head to the horizontal
- b) looking at another person
- c) relaxing his hand and arm position
- d) shifting his body position

As mentioned previously, many turns are not really completed, but rather interrupted or overlapped. Of those

TABLE 5: FREQUENCY OF SIGNALS INDICATING COMPLETION OF A TURN

Group	Member	Number of Turns ^a Completed	Raising Head to Horizontal # %	Looking at Another # %	Relaxing Hand Position # %	Shifting Body Position # %	Occurrence of At Least One Completion Signal # %
1	1	34	7 21%	5 15%	6 18%	6 18%	16 47%
	2	42	14 33%	10 24%	13 31%	8 19%	24 57%
	3	23	4 17%	3 13%	2 ^b 9%	0	9 39%
2	1	30	19 63%	19 63%	12 40%	2 7%	25 83%
	2	19	10 53%	3 42%	9 47%	3 33%	14 74%
	3	22	3 14%	4 18%	4 ^c 18%	4 18%	9 41%
Totals and Average %		170	57 34%	49 29%	46 27%	23 14%	97 57%

a - Not all turns are completed, many are interrupted and these are omitted from this table.

b - #3's hands are not visible seven times at the completion of his turn.

c - #3's hands are not visible twice at the completion of his turn.

completed, some kind of signal of completion occurs about half of the time (see Table 5). The frequency might be higher if #3's hands could be seen more often. Raising the head to the horizontal is used the most often (34% of the time), although relaxing the hand and looking at another occur only slightly less frequently (27% and 23% of the time respectively). As would be expected, there appears to be a correlation between raising one's head to the horizontal and looking at another.

The Relation of Status to the Coordination of Speaking Turns

Proposition 6A: The high status person will receive the most eye gaze, head orientation, and nods.

As shown in Table 6, the supposedly high status person receives the most looks, and in Group 1, the most head orientation. In both groups the "status seekers" are second in percent of looks received. In Group 1, the "status seeker" (#1) is second in receiving head orientation while in Group 2, he (#1) is first. In Group 2 the differences between H and L are slight.

Only one nod is given indicating a speaker and a "status seeker" receives it. Because no gestures are recorded that indicate the next speaker, that category is not included in Table 6.

Comparing data from Table 6 and Table 1 results in Table 7. It shows that the Hs receive looks before almost half of their speaking turns. In Group 1, H receives looks before

TABLE 6: FREQUENCY OF TURN-TAKING SIGNALS RECEIVED BY STATUS

Group	Member	Looks Received Before Speaking #	% of Group Total	Head Orientation Received #	% of Group Total	Mds Received Before Speaking #	% of Group Total
1	H (2)	24	49%	17	43%	0	
	H (1)	17	35%	15	38%	1	100%
	L (3)	8	16%	8	20%	0	
	Totals	49		40		0	
2	H (3)	18	44%	12	40%	0	
	H (2)	6	15%	5	17%	0	
	L (1)	17	41%	13	43%	0	
	Totals	41		30		0	

31% of his turns and L before 26% of his. In Group 2, where L leads the group in VIR, he receives looks before 41% of his turns while H receives looks only 19% of the time.

TABLE 7: PERCENTAGE OF TIMES SPEAKER RECEIVED LOOKS BEFORE SPEAKING BY STATUS

Group	Member's Status	Number of Looks Preceding Turn	Number of Speaking Turns	Percent of Turns Preceded by Looks
1	H (2)	24	49	49%
	H (1)	17	49	35%
	L (3)	8	31	26%
2	H (3)	18	37	49%
	H (2)	6	31	19%
	L (1)	17	41	41%
Totals and Average %		90	238	38%

Proposition 6B: The high status person will use eye gaze, head orientation, nods, or gestures to designate the next speaker.

Results in Table 8 show inconsistency between the two groups.

In Group 1, H gave half of the head orientations, almost half of the looks, and the only nod. L gave the next most signals and H, the "status seeker" the least.

TABLE 3: NUMBER AND DISTRIBUTION OF TURN-TAILING SIGNALS GIVEN ACCORDING TO STATUS

Group	Member's Status	Looks Given		Head Orientations Given		Nods Given		Gestures Given	
		"	% of Group Total	"	% of Group Total	"	% of Group Total	"	% of Group Total
1	H (2)	23	46%	20	50%	1	100%	0	0
	H (1)	13	26%	3	20%	0	0	0	0
	L (3)	14	28%	12	30%	0	0	0	0
	Totals	50		40		1		0	0
2	H (3)	9	21%	6	20%	0	0	0	0
	H (2)	12	29%	10	33%	0	0	0	0
	L (1)	21	50%	14	47%	0	0	0	0
	Totals	42		30		0		0	0

Group 2 presents a different pattern. Here the "status seeker," L, does about half of the signalling. M does the next most and H the least.

Note that the person with the lowest VIR, i.e., #3 in Group 1 and #2 in Group 2, are in the middle for their respective groups and do about an equal percentage of their group's signalling.

Proposition 6: The high status person will exhibit more floor-holding signals such as "ah," "um," etc, gaze avoidance, lowered head position, and maintained gestures than lower status persons.

Referring back to Table 4, the Hs use floor-holding signals about the same or slightly less than the "status seekers" (#1s). The Hs pause somewhat less also.

In both groups the members with the lowest VIRs exhibit very few pauses and very few signals when they do pause. They are lowest on percent of time each signal is used for all signals except gestures.

Simultaneous Speech

Proposition 7: The simple overlap type of simultaneous speech occurs because one or both speakers violate the turn-taking mechanism in one or both of the following ways:

- a) the current speaker displays completion signals, then continues speaking (see Proposition 5)
- b) the new speaker ignores floor-holding signals (see Proposition 4) of the current speaker.

Table 5 shows that the overlap type of simultaneous speech often occurs when the speaker gives completion signals. In 70%

TABLE 2: COORDINATION OF OVERLAP BY STATUS

Group	Member's Status	Number of Times Overlapped while Speaking	Times at Least One Completion Signal Was Given#	%	Times at Least One Floor-Holding Signal Was Given#	%	Times Turn Was Regained	%	Times Higher Status Member Gained Turn
1	H (2)	11	10	91%	6	55%	9	82%	9
	H (1)	3	1	33%	2	67%	3	100%	1
	L (3)	2	2	100%	1	50%	1	50%	1
2	H (3)	3	1	33%	3	100%	1	33%	1
	H (2)	7	6	86%	1	14%	4	57%	4
	L (1)	3	3	100%	1	33%	3	100%	0
Totals and Average		29	23	79%	14	48%	21	72%	15

* shifting body position was eliminated from this tally because in the propositions it was considered as a signal for both completion and floor-holding.

of the overlaps at least one completion signal occurs. In about half of the overlaps the speaker gave at least one floor-holding signal. Thus, overlap appears to be related to inconsistent signalling by the speaker although the "intruder" also seems to ignore a floor-holding signal about half of the time.

Speakers who are overlapped regain their turn 72% of the time. The higher status person of the pair gains the floor only 55% of the time. However, displaying floor-holding signals and being of high status do not guarantee that a speaker will regain his turn when overlapped. H in Group 2 is high status, always gives at least one floor-holding signal, only once gives a completion signal, yet H loses his turn two out of the three times he is overlapped.

Proposition 8: The high status person will both interrupt and resist interruption more than lower status persons.

The findings in Table 10 on interruption show inconsistency between the two groups. In group 1, H does interrupt the most but resists interruption slightly less than H. In Group 2, H interrupts far less than L (the status seeker) and resists interruptions the least.

There is a problem in scoring resistance to interruption. Twice in each group when a person is interrupted neither speaker quits until they finish their sentences. Thus, there are four times where no decision is made as to "who wins."

TABLE 10: COORDINATION OF INTERRUPTIONS BY STATUS

Group	Member's Status	Number of Times Interrupted	Times Resisting Interruption " "	Times Allowing Interruption " "	Number of Times Interrupting	Times Successful in Interrupting " "
1	I (2)	0	1 ^a 13%	5 63%	13	9 ^a 69%
	I (1)	14	2 ^a 14%	10 71%	5 ^b	4 30%
	I (3)	4	0 ^a 0%	4 100%	3 ^b	6 ^a 67%
2	I (3)	22	3 ^c 14%	13 ^c 82%	11	7 64%
	I (2)	14	7 ^c 50%	6 ^c 43%	10	6 60%
	I (1)	16	5 31%	11 69%	31	20 ^d 65%
Totals		70	10 23%	54 69%	79	52 66%

a - Twice both finished their turns simultaneously.

b - Both #1 and #3 interrupt #2 at the same time. #3 gains the floor.

c - No decision.

d - Twice there was no decision.

Summary

The results do not show a direct relationship between the manipulated status ranking and the verbal initiation rates in the groups.

Non-verbal cues indicating the next speaker do not occur very often in the groups and when they do they are eye or head movements. Shifting of positions of body parts do occur frequently as a speaker begins his turn. Floor-holding signals are used extensively by members of the groups when they pause. Completion signals are recorded for only half of the turns completed.

Support is found for the proposition that the high status person will receive the most cues to speak. Data on who gives the most turn-taking signals are inconsistent. High status persons do not use more floor-holding signals than "status seekers." Persons with the lowest verbal initiation rates pause the least and exhibit the fewest floor-holding signals.

Overlaps are usually related to the giving of completion signals by the speaker. However, he usually regains his turn. The tendency to interrupt appears to be related to verbal initiation rate, although the tendency is slight. The interrupter usually succeeds in getting the "floor."

CHAPTER 5

DISCUSSION

The use of a small non-random sample of groups with so few members (three) requires that all conclusions be considered tenuous at best. The results presented previously can be considered as evidence for or against the propositions enumerated but there is too little evidence to consider the propositions proved or disproved.

The Relation of Status to Verbal Participation

Proposition 1

Verbal initiations rates do not vary according to the imposed status ranking. In Group 1, both H and M have an equal number of turns, while in Group 2, L initiates the most turns.

A comment on Group 1 may serve to explain why H does not have a higher VIR than M. Group 1 finishes its discussion task before the thirty minutes are up and spends the remaining time (approximately five minutes) in informal chatter. During this period, H dominates and M is virtually left out.

The interjections made by the group members were counted because they seem to indicate attention and support. Therefore, they are more likely to come from middle or low status persons than from high status ones. In Group 1, H does make the most interjections, however, M only makes three less. In

Group 2, L makes a great many more interjections than the others; H makes the least. Bittmann and Llewellyn (1960) write that incidental vocal responses not only give feedback but also represent a request by the interjector to be included in the discussion. Thus, in Group 1, L accepts his low status and does not seek inclusion in the discussion while the low status person in Group 2 is constantly seeking to be included. Sacks (1967: Lecture 4) says that "uh-huh" and "yes" may not really indicate agreement with what is said as much as they indicate attention to the timing of the other's speech. Such seems to be the case with L in Group 2, he is not really agreeing with what the others say as much as he is encouraging them to finish so he can talk. Also, L has a faster rate of speech than the others and seems to get impatient because it takes the others so long to say something.

In both groups there seems to be at least one individual who does not accept the manipulated status ranking. In Group 2, L appears to be fighting for status and, thus, tries to get his say in every chance he gets. In Group 1, it is K who seems to be competing with H for control. Throughout the rest of this study, these individuals will be referred to as "status seekers" for they seem to be trying to prove they deserve higher status than what they were ascribed. These status struggles complicate the relationship between status and non-verbal behavior and make it more difficult to draw conclusions from the data.

It must be remembered that people normally determine the status of another by a variety of cues and not just supposed ability at a task. While these groups were matched as to sex, age, race social class, and reported verbal propensity, other factors of status do appear. For example, I in Group 1 may have been considered low status by the other group members because of his poor grammar and harsh voice instead of the manipulated status ranking. Even if the group had been told he had high ability, he may have, nonetheless, been low man because of these additional variables. The reference made above to the difference in speech rates in Group 2 could also be a factor in determining the status ranking of that group. Obviously, status is a very difficult variable to control and manipulate systematically.

The Relation of Non-Verbal Behavior to the Coordination of Speaking Turns

Proposition 2

As mentioned before, many speaking turns are not really completed but are interrupted or overlapped, as it is often the case that no signals are given indicating the next speaker. Very often a person speaks without receiving a cue to do so from anyone. It was often the case that all three members of the group were looking down at their papers and could not have seen a non-verbal signal if one was given. Also, the subjects do not wait for signals but "jump in" when they have something to say. When signals are given, they are almost always from the preceding speaker. Members of the groups look often at

the speaker but generally they look at him after he starts talking and not before.

The reason for the absence of nods and gesture is not readily evident. Perhaps, when there are only three people in a group pointing does not seem as necessary as it might be if the group were larger. The directing of eye gaze may be considered sufficient to indicate the next speaker.

Proposition 5

As stated in the results, shifting of the head position is the most frequent signal given at the start of a speaking turn and shifting of the body the least frequent. However, individuals vary greatly in the amount they shift a particular body part. They also vary as to the preferred "start" position. For example, a couple of subjects lean forward when they begin to speak, another back, and at least one other draws himself up into an erect position as he begins a turn. The difficulty in determining the arm position of the #3's probably is the reason for their low scores in this category although their gestures and hand-to-head movements can be seen.

I have stated that non-verbal signals occur before speech begins.endon (1972) writes that this shift occurs approximately nine seconds before speech begins but this time period it not the case in the groups studied. At times it is hard to determine whether the non-verbal or the verbal came first. Therefore, the value of these movements as signals forewarning others of a person's intention to speak can be questioned.

Yet, shifts do occur with great regularity and are closely linked to the onset of speech. Perhaps shifting and movement are ways of getting others' attention - ways of getting the other members of the group to look at you.

Proposition 4

It is interesting that what is termed a "pause" is not really a time when nothing happens. Some type of floor-holding signals occurs during almost all of the pauses recorded in the tapes.

Lowering of the eyes is the most common way of "holding the floor." Surprisingly, both lowered eyes and lowered head occur more often than the odious "ah" and "um" which are common in most American speech. The subjects are even more apt to gesture or use object or self-manipulation than they were to use "ah."

As can be seen in Table 4, individuals vary in the degree to which they use floor-holding signals and in their preference of signals. For example, #5 in Group 1 is the only person who uses more gestures than lowered eye gaze. Preference seems to be idiosyncratic. People also vary greatly in their style of gesturing. Cigarettes are especially useful in floor-holding. Knocking the ashes off can be a very impressive and time consuming process. "Taking a drag" is also a convenient stall.

A pause is also an occasion when the listeners display characteristic movements. If the listener has been looking down during speech, he is likely to look up to see if the speaker has finished or not. If the listener has been looking

at the speaker, it is probably that he will look down during a pause. This gaze avoidance may be a way of indicating that he does not want a turn, but will wait for the speaker to finish, or it could show a desire not to stare at the speaker during an embarrassing pause. Both looking up and looking down seem to be functional to the turn-taking process.

Proposition 5

Completion signals do not occur very often. Part of the problem is that speakers are often interrupted before they complete their sentences. Even when at the end of a sentence, I sensed that some speakers were not really finished when the next speaker began. In a couple of cases a speaker opens his mouth, apparently to begin a new sentence, when someone else starts talking. The first speaker does not say anything, so the incident is not scored as an overlap.

There is anecdotal support for the importance of completion signals. On one occasion in Group 1, the speaker does not give a completion signal until a few seconds after he finishes speaking. In this case, the next speaker does not begin until the first speaker has relaxed his hand position.

It is interesting to note that in Group 1 the frequency of signalling completion of a turn varies directly with the status ranking. H (#2) is most apt to raise his head and look at another. Perhaps, as the high status person, he has the most to lose, so he is the most intent upon making sure his communication is received and understood. Thus, he looks to others for feedback as he completes his turn. Perhaps too,

he is the most concerned with abiding by the norms of informal conversation and, hence, most careful to signal his intentions.

This relationship of completion signals to status does not hold in Group 2. L (#1) signals the most. Perhaps in this group, he is the one most desiring feedback. After all, he is the one seeking status and he needs to know how he is doing. Both lower status members of Group 2 (#1 and #2) exhibit a greater tendency to signal completion than the other subjects. The specific signal is often the raising of the head and looking at another, which suggests that these members are seeking feedback from H. It is worth noting that H very seldom looks up and often does not give any feedback.

The Relation of Status to the Coordination of Speaking Turns

Proposition 6A

The finding that the supposedly high status person receives the most looks is particularly significant considering the number of turns each initiated. In Group 1, H initiates the same number of turns as L while in Group 2, H initiates less turns than L. In both groups the members appear to feel that the high status person has the right to the most turns, whether he takes the most or not. In both groups, H receives more than 40% of the looks and head orientations.

Results in Table 3, showing that the Hs receive looks before almost half of their turns, while the "status seekers" (#1s) receive looks before only 35.1 and 41% of their turns,

suggests that the number of signals indicating the next speaker is more closely related to the status ranking than it is to the verbal initiation rate. Here again, the Hs seem to have more "right" to speak than other group members. They are more apt to be looked at, perhaps because the lower status members are seeking feedback from them.

However, VIR does play a part, particularly in Group 2. "Status seekers" do receive cues to speak and are not always transgressors.

Proposition 6B

Data on Group 1 support Proposition 6B. H does give the most cues indicating the next speaker although he is no more apt to be the speaker than I is. However, in Group 2, it is the "status seeker," I, who does the most signalling. Both of these individuals are high in VIR but in Group 2, VIR seems more important than it does in Group 1. In the latter group, I is much more aggressive and assertive an individual than H, who is reserved and displays few motions. Hence, individual differences in non-verbal behavior cannot be discounted.

The case of the persons with the lowest VIR being second in the giving of signals will now be considered. Perhaps these persons are what Schefflen (1972) calls "proper listeners" for they direct their attention to the higher status persons. In this way they do exercise some, although limited, control over who will speak next.

In Group 1, H, the "status seeker," seemed more concerned with getting turns for himself than in signalling turns for others.

Proposition 6C

The findings do not support the proposition that the high status person will use the most floor-holding signals. But, the findings do support the idea mentioned above concerning the "status seekers." These persons ("1s") seem more concerned with maintaining their turns than the Hs do. Perhaps they do not feel they have as much right to speak as the Hs, so they use more non-verbal methods to retain their turns. If one includes the expanded classification of floor-holding signals found in Table 4A, these "status seekers" show some type of signalling during 95% of their pauses.

As for the few floor-holding signals of the low VIR people, and the few floor-holding signals when they do pause, it is my conjecture that these individuals who speak the least feel they have little right to speak, hence, little right to "hold the floor" during a pause.

Simultaneous Speech

Proposition 7

Inconsistent signalling of intentions by the speaker appears to be related to overlap in speech. However, the sample is small and the conclusions based on only 29 cases of overlap.

Persons who are overlapped are quite likely to regain their speaking turn. Who was speaking is somewhat more important in determining who gains the turn than is status in cases of overlap. Status is especially unimportant in cases of overlap in Group 2. H regains his turn only once in the three times he is overlapped, while I, the "status seeker," regains his turn all three times he is overlapped.

There are a couple of examples of overlap in Group 1 which illustrate the confusion that sometimes occurs. In both, H finishes speaking, H begins, H adds another sentence, H stops and begins again. As H does so, H adds still another sentence with which he ends his speaking. H then starts for the third time and is able to complete his statement.

Interjections are frequently made as persons pause, but the speaker retains his turn. These often occur when a person says, "You know!" and someone says, "Yeah" or "Right."

Conclusion 2

In both groups it was the "status seeker" who is the most successful at interrupting. These individuals seem intent upon getting their say in regardless of whose turn it is. The members with the lowest VIR are least successful at interrupting. Again, these people may think they have less right to speak than others in the group. The success at interrupting is more closely related to VIR than it is to manipulated status rankings. The persons who talk the most appear to be most likely to interrupt others. No real conclusion can be drawn from the

data as to the relation of resistance to interruption to status or VPR except to say that the subjects tend not to resist.

Interruptions are periods of much confusion and it is difficult to categorize what happens. For instance, on one occasion in Group 1, while H is pausing both of the others start to speak. I gets his statement in between the words of H, while H's words are garbled. In another case in Group 1, H pauses, searching for a word. K jumps in with a statement. H finds the word, says it, and H repeats it and nods. All the while K continues speaking. H performs a similar act later when I interrupts K. H finishes K's sentence. H agrees and nods. All the while I continues talking.

In Group 2, L, the "status seeker," frequently interrupts and completes the sentence of the original speaker. Often the original speaker also completes the sentence after L. On one occasion, L interrupts H and they complete the sentence simultaneously in a "choral reading" sort of way. Harvey Sachs (1967: Lecture 4) says that if a person finishes a speaker's sentence when the speaker pauses, the person may be attempting to keep up the pace of the conversation. This explanation seems applicable because L has a faster rate of delivery than the others and may grow impatient during pauses, so he interrupts and completes their utterance.

An attempt to interrupt indicates a desire to speak and sometimes the unsuccessful interrupter receives signals from

the speaker indicating that it is the interrupter's turn next. Thus, the interrupter does get his chance eventually.

This study did find that interruptions tend to occur in a series of clusters. In other words, he who interrupts is likely to be interrupted by another before he finishes his utterance. For example, in Group 2 after he interrupts K, K is interrupted by L. A few seconds later, H attempts to interrupt L but never gets a complete sentence in. However, H persists and interrupts L again before the latter is quite finished. Instances of this sort where the interrupter is interrupted occur 14 times in Group 2 and often in Group 1. In Group 1 there is a time when the group members are all making comments to the experimenter saying they are finished. No one really has the floor or is talking to another, consequently, this section is omitted from the analysis.

Interrupting may relate somewhat to status and VIR but the evidence presented here does not give very strong support that it does. Basically what the findings show is that the person who is aggressive enough to interrupt will usually win in the fight for the floor. While at times of overlap, the original speaker is likely to regain his turn, that is not the case with interruptions. There seems to be a definite difference between "cutting in" while the speaker is in the middle of a phrase and "cutting in" at the end of a phrase. The latter appears to be an unintended violation of a turn while the former was definitely intended. At these times of simultaneous speech, looking at the other speaker seems to indicate that you are relinquishing the turn to him.

Summary

Although Bales, et al., (1952) and others have found that status in a group is correlated with task ability, attempting to impose a status ranking according to supposed ability was not effective in the groups studied. Verbal participation rates are probably more accurate indicators of status in natural groups than they are in the experimental groups investigated. For any group, factors other than manipulated ability must be considered.

Non-verbal signals coordinating speaking turns are of limited frequency and effectiveness in the groups. Status struggles are apparent in both groups and there is not a definite leader or chairman who designates speakers. Completion signals and signals indicating the next speaker are frequently absent because of interruptions or overlaps. In a more formal group signalling should be much more prevalent. Signalling does occur but often speakers do not look or wait for it. A would-be speaker frequently shifts his head, hand, or body at the beginning of a turn, possibly to make sure others are attending to him. Floor-holding signals are very prevalent during pauses. Movements of eyes, hands, and sometimes body occur almost always when a speaker pauses and definitely seem to be signals to others that he is not finished.

In contrast with Duncan's (1972) findings, the speakers give completion signals when they are not finished. Duncan states that "attempt-suppressing signals" discourage others from taking a turn. Such is not the case with floor-holding signals

in this study. The present findings do agree with Zimmerman and West that in times of overlap the original speaker regains the turn. Interruptions are not as closely related to status as Zimmerman and West found. In one group the high status person does interrupt the most but in the other he interrupts the least. It is the person seeking status who resists most; however, resistance to interruption is seldom successful. While the speaker gets the turn in times of overlap, it is the interrupter who usually gains the floor.

CHAPTER 6

PROBLEMS AND RECOMMENDATIONS

As mentioned in Chapter 2, in order to understand the communication process, it is necessary to consider and investigate all of its various aspects. Only four body parts, eyes, head, arms, and trunk are focused upon in this study. Such limited investigations will result in limited knowledge. It became increasingly apparent as I viewed the tapes that other factors besides the ones I was focusing upon were influencing my data. The content of each person's speech, i.e., who asked questions, who called for discussion, who summarized, etc., all seemed to be related to status, and an indepth analysis of these variables would have no doubt increased my understanding of what was going on in each group's status system. Other aspects of speech, those commonly studied by the linguist, such as intonation, inflection, and pitch, are also vital to analysis. There are other non-verbal behaviors, for example facial expressions, which communicate a great deal of information but which are not included in this study. To fully comprehend the intricacies of communication, it is necessary to study all of its complex parts.

Communication is a process. Utterances are not isolated events but a sequence of events related to each other. A better explanation of the status of the groups in this study would have resulted from determining how the verbal and

non-verbal behaviors of the members vary over time. The process by which one seeks status would be fascinating to study also.

In Chapter 3, certain problems with the tapes used are mentioned. To study all of a person's kinesic behavior, it would be necessary to photograph the entire body and not just from the waist up. By doing so, the leg movements and all hand movements could be seen. It is also difficult to judge all persons' movements equally when they are not all seen from the same angle. A face forward picture would seem to be preferred.

Anyone studying body movements must be alert to features of the environment that limit or restrict movements. In the present study, the use of chairs with desk arms influence what arm and body positions are assumed. Giving the subjects a printed copy of the case to be discussed and paper and pencil with which to write down the decision results in the subjects reading and writing a good deal. Without papers to look at, they probably would look at each other more.

Coding System

Because none of the coding systems given in the literature reviewed were appropriate for gathering data on the propositions considered, I developed my own coding system. However, despite many tests and revisions of the system, it has some major flaws in it.

The movements are difficult to record because they occur very rapidly. If the head is slightly hanging or the subject

wears glasses, the eyes are hard to see. With the cameras set so as to see the person from the waist up, they are not really close enough to give a clear picture of the eyes.

While the categories used appear to be all-inclusive of eye movements, the subjects could still do subtle things (such as look through or past someone) that could not be precisely recorded.

One major defect of the coding of head position is the lack of a category for shaking the head "no." Nodding is also a difficult phenomenon to record. Sometimes nods occur almost too rapidly to count and sometimes they are so drawn out that it is hard to determine where they occur in the conversation. People seem to have very characteristic ways of holding their heads when they speak or listen. The meaning of these different positions may vary from person to person but careful study of a large sample is needed to separate what is idiosyncratic from what may be universal, or characteristic of a particular group.

Although I chose not to attend to facial expressions, it is unfortunate that such significant behaviors as yawns or laughter could not be included. I would recommend that before doing research of this type, a person consider very carefully what he or she will and will not include and the consequences of omitting the factors not included.

Many outside factors affect hand and arm movement. As mentioned above, chains with arms not only restrict arm movement but they also increase the amount of hand-to-hand movement. Deaf subjects often hold their hands in their laps and do not

on their elbows. For some, this position may be a relaxed position but it is not coded as such in this system. People who smoke displayed more hand-to-head and object-manipulation than non-smokers. Does this relationship mean that smokers are more nervous and restless than non-smokers naturally, or does smoking itself make them nervous and restless? One subject coughs occasionally and when he does so he covers his mouth with his hand. Would he display as many hand-to-head movements if he did not have a cough? Hand and arm movements convey a great deal and my coding system does not capture much of the significance of these movements. I have no way of distinguishing a stretch, a shrug of the shoulders, or demonstrative gestures such as those showing size or shape of things. One factor that makes people so interesting to watch is the variety of gestures and other hand and arm movements they display. Trying to place all of these movements into four or five categories results in a loss of most of what is meaningful. However, some way of classification seems necessary to scientific study. Before developing a coding system, it is imperative that one decide exactly what type of movement will be the focus. Also, I would recommend some way of measuring and recording not only the occurrence but also the intensity and duration of positions and movements.

My coding system classifies body positions into forward, backward, and sideways lean as well as vertical posture. However, I never really do anything with the positions except count the number of times positions are changed. The subjects

seem to have characteristic listening and speaking positions. Yet, I believe studies on the existence of a somewhat cross-cultural speaking and listening position might prove fruitful. The subjects at times display common ways of twisting and turning the trunk of their bodies which make classification difficult. Also, while stopping and starting the tapes aids in coordinating the movements and the speaking, it tends to distort the feeling of movement and makes it more difficult to decide exactly what a person is doing. As with all movements, it is hard to say definitely whether shifting body position is a way of indicating the start or completion of a speaking turn, a sign of boredom or disagree with what is being said, or the result of an uncomfortable chair.

There are problems with coding verbal, as well as non-verbal behavior. What is considered a pause in this study was a rather arbitrary decision on the part of the coder. In future research I would recommend an exact definition of a "pause," perhaps in terms of seconds.

Although most interjections are of the "yeah," "right," "uh-huh" variety, some very short phrases occur, for example, "Oh, I agree." and "Which he headed," that seem more properly classified as interjections than they do turns. However, I stayed with my original conception of an interjection as a single word and classified the above examples as turns. Future researchers may choose to do otherwise. It is important to remember that whenever you set out to separate the horses from the races you are bound to discover some rules which are

halfway between your two categories. The natural world is not easily divided into categories so categories must be carefully developed and defined.

Summary

Further study of the process of communication is needed in order for its complexities to be understood. Although a wholistic approach is necessary eventually, more study of the non-verbal components is needed to bring that aspect of the process up to the level of sophistication of the verbal. The sequence of events as well as the events themselves must be considered. Better systems of classifying and defining movements are also required. Factors in the environment affecting movements have to be taken into account. Exact measures of duration and intensity of behaviors would prove beneficial. Lastly, any researcher of non-verbal behavior must be extremely patient for the work is slow and tedious and the findings are small and complicated.

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