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If we are to understand fully any instance of a person's non-verbal behavior — that is, any movement or position of the face and/or the body — we must discover how that behavior became part of the person's repertoire, the circumstances of its use, and the rules which explain how the behavior contains or conveys information. We will call these three fundamental considerations ORIGIN, USAGE, and CODING.

The interrelationships among and the differences within these three aspects of nonverbal behavior are extremely complex. The task of unraveling nonverbal behavior in these terms is enormously difficult; and it becomes impossible if we fail to consider the possibility of multiple categories of nonverbal behavior.

The need to develop such a categorical scheme has emerged from the results of our empirical studies over the past eight years, and has been crystallized by our two current research projects, the study of cross-cultural differences in nonverbal behavior, and the study of nonverbal leakage of information during deceptive situations. We will briefly trace how some of the findings raised questions which led us to attempt to

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specify the usage, origin, and coding of five categories of nonverbal behavior.

SUMMARY OF OUR PAST RESEARCH

In studies designed to determine what kinds of information could be derived from observing facial or body behavior we found that inferences about emotions, attitudes, interpersonal roles, and severity of pathology can be made by observers who have had no specialized training (Ekman, 1964; Ekman, 1965a; Ekman and Friesen, 1965, 1968). Such inferences are usually accurate, in that they coincide with independent assessments of the person's total behavior, life circumstances, *etc.* But, how do observers decode the nonverbal behavior to make judgments about emotion, attitude or personality? Is there a language of the body, much like verbal language, in which specific meanings, denotative or connotative, are associated with specific movements? Or, are the meanings of nonverbal behavior more diffuse or less specific, and the interpretation global and intuitive? Are the nonverbal acts which are informative about emotion also informative about personality or pathology? If observers are able to interpret information accurately, can we infer that nonverbal behaviors are intentional efforts to communicate? Although our research had not been directed to answer these questions, our studies forced us to the observation that there must be essentially different types of nonverbal behavior, some types providing very specific information, others providing more diffuse information, some obviously intended to transmit messages, others in no way designed as communication, some providing information about emotion, others conveying information about traits, attitudes and interpersonal styles.

In another set of studies we attempted to determine the kind of affective information which could be derived from different body areas by observers (Ekman, 1965b; Ekman and Friesen, 1967a). The face was found to convey more information about the nature of an emotion (whether the person felt sad, angry, afraid, *etc.*), than about the intensity of the emotional state. Information derived from observing the body differs for ACTS (movements of the hands and arms, legs and feet, shoulders, or total posture) and still POSITIONS. Body acts were found to provide information both about intensity and about the nature of the emotion. Still positions of the body typically provide information about intensity of emotion, but sometimes also about what we call the gross affective state, whether

the person felt pleasant or unpleasant. What might account for these differences between face, body acts and positions; might it be anatomy, socialization processes, clothing? Where does the observer learn how to interpret nonverbal behavior; or DOES he learn how to interpret these cues?

In another set of investigations we studied the meaning of the specific act, which was defined as a class of movements distinguishable from another class of movements by its distinctive visual appearance (Ekman and Friesen, 1966, 1968). Covering the eye would be one act, rubbing the temple another, caressing the forehead another. We found that such acts have fairly specific meaning; their frequency of occurrence varies with the psychological state of the sender; they can be related in a number of different ways to the associated speech, and they convey quite specific messages to observers. Among psychiatric patients the eye-cover act, for example, is shown most often by individuals who are depressed, particularly if their depression involves withdrawal and shame, but not by these same individuals when their depression has lifted. The eye-cover act will often be preceded or followed by turning away from the other interactant, and sometimes by crying. Observers who see only the eye-cover act will infer shame and general unhappiness. Certainly the overall context, the physical setting, the age, sex, body size and role of the person showing the act, and the rest of the nonverbal and verbal behaviors modify the meaning of such an act, much as the verbal context, voice tone and speaker characteristics modify the meaning of a word; however, the act, like the word, has a distinct set of meanings different from the meanings associated with another act. But, is an act like the eye-cover unique to depressive patients; or, if it is shown by normal people as well, in what way does its occurrence relate to the psychological state of the sender? Is the meaning associated with an act always dependent upon observing what the act accomplishes or does to some part of the body, as is the case with the eye-cover act; if so, what then of gesticulations in space? Does the person who covers his eye do so to EXPRESS his shame, or to COMMUNICATE to others his shame, or ADAPTIVELY to hide his shame? Our tentative answers to these questions were that the movements shown by depressive patients are not unique to them, and that the differences associated with pathology are shown in the frequency of occurrence, range of behavior manifested, and extent to which the behavior is governed by social norms, rather than in a peculiar class of movement. Many acts can be decoded by interpretation of what the act is accomplishing, like the eye-cover; but other acts seem to illustrate the words rather than

do anything to a body part. Again we were impressed with the very different types of nonverbal behavior shown, some which seem designed to transmit information, others which appear to be expressive or adaptive.

We have become increasingly curious about what nonverbal behavior can tell us which verbal behavior does not (Ekman and Friesen, 1967b, 1968, 1969). One of our first thoughts was that nonverbal behavior provides valuable information when we can't trust what we are told in words, either because the speaker is purposefully trying to deceive us, or because he has blocked or repressed the information we want. We have developed a theory to explain why nonverbal behavior seems to escape efforts to deceive (Ekman and Friesen, 1967b, 1969) providing either deception clues, *i.e.*, information that deception is in progress, or leakage, *i.e.*, the betrayal of the withheld information. But, we know that nonverbal behavior can lie — if not as well perhaps as verbal behavior — and one cannot trust everything one sees. Our theory has specified major differences among the face, hands, and feet, in the type and frequency of both leakage and deception clues, and has looked to differences in the anatomy and in socialization processes as the source of these differences. But this raises questions about the censoring or control of information, and we have had to postulate that some types of nonverbal behavior can be easily controlled while other types of nonverbal behaviors escape control and provide leakage.

Our initiation of two cross-cultural studies required the formulation of a theory of both the origin and coding of nonverbal behavior. The first of these studies involved examination of the encoding, or display, and the decoding, or recognition, of facial displays of emotion in different cultural settings. The methods used in such a study, the selection of specific emotions and techniques for analyzing encoding and decoding, and the development of hypotheses about pan-cultural elements as well as cultural differences required the explicit formulation of a theory of both the origins and coding of this form of nonverbal behavior. The second study involved another type of nonverbal behavior, where major cultural differences were predicted: those actions which are almost always employed as intentional communicative signals (which we will later define as emblems). Thus, we were required to begin to specify the basic differences between various forms of nonverbal activity. And this required consideration of three fundamental issues mentioned at the outset: the usage, origin and coding of nonverbal behavior.

USAGE, ORIGIN AND CODING

Usage

The term 'usage' refers to regular and consistent circumstances surrounding the occurrence of a nonverbal act. Usage includes (1) the external conditions found whenever the act occurs, (2) the relationship of the act to the associated verbal behavior, (3) the person's awareness of emitting the act, (4) the person's intention to communicate, (5) feedback from the person observing the act, and (6) the type of information conveyed by the act.

(1) EXTERNAL CONDITION refers to any of the environmental circumstances which customarily coincide with, inhibit or occasion an act, or qualify its meaning. Setting is one such external condition; for example, the act could be customary in home, office, interviews, conversations, dyadic or group interactions, *etc.* The act might be more frequent in one role than another: *e.g.*, within settings, husband or father in the home, supervisor or supervisee for an employee located in the middle of a business hierarchy; across settings, in the roles of listener, authority, *etc.* The emotional tone of the interaction might also be related to the occurrence of an act; *e.g.*, angry, formal, warm, stressful moments, or more enduring characteristics of the particular relationship between interactants.

(2) RELATIONSHIP TO VERBAL BEHAVIOR refers both to the temporal sequence or coincidence of the nonverbal and verbal behaviors, and to interrelationships between the meanings conveyed by each channel. The nonverbal act can repeat, augment, illustrate, accent, or contradict the words; it can anticipate, coincide with, substitute for or follow the verbal behavior; and it can be unrelated to the verbal behavior.

(3) AWARENESS, or internal feedback, refers to whether the person knows he is engaging in a particular nonverbal act at the moment he does it, or whether he can recall with any ease what he has done. A person can be aware of his nonverbal behavior whether or not he engages in the act as an intentional attempt to communicate a specific message.

(4) INTENTIONALITY [2] refers to the deliberate use of a nonverbal act to communicate a message to another interactant. This definition does not

[2] Intentionality is a concept traditionally avoided by psychologists interested in human communication on the grounds that it is not possible to operationalize intentions, or that the investigator will become lost in questions of levels of intention or unconscious intention. We believe that there are some nonverbal behaviors which the sender usually consciously intends as communicative signals to convey messages (soon to be defined as emblems), and that through naturalistic or experimental methods it

include behavior which is considered to be unconsciously intended; intentional nonverbal behavior must be, by our definition, within awareness and the sender must want to send a message through his act.

(5) EXTERNAL FEEDBACK refers to the information regarding a nonverbal act which the observer, or receiver provides to the sender. Such feedback may consist of direct verbal comments on the sender's activity, or obvious visual attention to a particular nonverbal act, or to the receiver's verbal and nonverbal behavior which clearly is reactive to the sender's nonverbal actions. External feedback is thus not identical with what the observer perceives, but is more narrowly defined to include only the observer's activity which clearly informs the sender that his nonverbal action is being perceived and evaluated.

(6) TYPE OF INFORMATION CONVEYED refers to a basic distinction between idiosyncratic and shared information, and definitions of INFORMATIVE, COMMUNICATIVE and INTERACTIVE nonverbal behavior. An act has idiosyncratic meaning if there is some regularity in the information associated with its occurrence but the association is peculiar to a single individual. An act has shared meaning if the information associated with it is common across some specifiable set of individuals. Idiosyncratic or shared meaning can refer to either the encoding or decoding of an action. An act has idiosyncratic encoded meaning if it is emitted under similar environmental or stimulus conditions by one individual, but not by others. A particular hand movement might frequently occur when the individual is exhausted, or anxious, or confronted with humiliating rejections or under the influence of dexedrine. The act has an encoded meaning in terms of the regularity of its occurrence with those stimulus events which precede, accompany or typically follow it or with consistently associated ideation. The encoded meaning is idiosyncratic if the meaning is peculiar to one person, and shared if the meaning is common to a set of persons. An act has idiosyncratic DECODED meaning if it consistently conveys a particular item of information to a single receiver, but not to others. A parent to his child, a wife to her husband, a psychoanalyst to his patient might be such special privileged receivers who have learned the private decoding of specific acts of another person; but that decoding is not known by other observers who have not shared such intimate contact with the sender. Shared decoded meaning occurs when any specifiable set of observers

is possible to differentiate these acts from other forms of nonverbal behavior. At the same time, we do admit that the intentionality of other nonverbal behavior is problematic, and it may not be possible to determine the intentionality of every instance of nonverbal behavior.

usually agree about the information conveyed by an act. Idiosyncratic and shared meaning does not exhaust the possibilities. We must admit that there may be actions which are meaningless — random activity or noise, movements which have no regularities in either their encoding or decoding, not even for a single person.

It is important to note that we do not speak of an act as idiosyncratic or shared. These terms refer instead to the meaning associated with an act. Almost any act can have either or both kinds of meaning, and if an act is classified into one of the five categories of nonverbal behavior to be described, certain differences in the proportion of idiosyncratic to shared meaning can be expected. Having made a distinction between two layers of meaning (idiosyncratic and shared) in regard to two types of meaning (encoded and decoded) let us now introduce our way of formulating the difference among 'informative', 'communicative' and 'interactive' nonverbal behavior.

INFORMATIVE nonverbal behavior encompasses those acts which have some shared decoded meaning, in that such acts elicit similar interpretations in some set of observers. The use of this term does not imply that the act was intended to convey the information it does, nor does it imply that the act was intended to convey any information at all, though it does. The term informative refers only to decoded meaning; if that decoding is idiosyncratic rather than shared the act would not be considered informative. The shared meaning is not, however, a sufficient criterion for our use of the term informative; an act could have shared encoded meaning but still not have shared decoded meaning. For example, a twitch of the facial muscles, which reliably occurred in association with hostile assaults by an interviewer; this association might be reliable across some set of individuals thus having shared encoded meaning, and yet the acts might not convey consistent information about anything to any given set of observers and thus they would not be informative. An informative act is not necessarily one which conveys correct or accurate information about the sender; what the observers decode may be quite mistaken when compared with any criteria; *e.g.*, stereotypes. The meaning conveyed by an informative act could vary enormously; it could be such simple messages as *hello* or *goodbye*, or emphasis on particular words, or the speaker's wish to have the receiver respond, or, the act might convey information about the transient or enduring affect state, or about personality or attitude.

COMMUNICATIVE nonverbal behavior encompasses those acts which are clearly and consciously intended by the sender to transmit a specifiable

message to the receiver. We are excluding thereby much informative behavior. That is, many acts which convey shared decoded meaning are not, by our definition, communicative; these would be acts which while informative were not intended consciously by the sender to transmit a message. Communicative acts are not necessarily accurate conveyors of information. We are not restricting the term to only those instances where the decoded information fits the information intended by the sender; those instances we would call accurate communication and there can be miscommunicative or inaccurate communicative behavior as well. Communicative acts need not necessarily have a shared decoded meaning; there could be non-informative communicative acts where the sender intended to transmit a message but no one understands him. Presumed unconscious intentions to transmit a message are also excluded from our definition, as is any criterion that the receiver's interaction with the sender must be influenced by the sender's communicative act.

INTERACTIVE nonverbal behavior encompasses those acts which meet this last criterion: They are acts by one person in an interaction which clearly modify or influence the interactive behavior of the other person(s). If this influence upon the interactions is shared, in that more than one receiver who decodes the sender's act responds to it interactively in a similar fashion, it would be informative-interactive; if the act's influence is for only one other interactant, or varies with each interactant, then the act would be considered idiosyncratic-interactive. Not all informative behavior is interactive; many informative acts may not influence or modify the interaction, at least in detectable ways. Interactive behavior need not be communicative; many informative acts will influence the interaction and yet not be the result of an intent to communicate.

Figure 1 illustrates the relationships among these terms. Interactive behavior may be also informative (b), it may be both informative and communicative (f), or it may be idiosyncratic (c) (the latter may refer to acts which regularly influence the behavior of a wife in regard to her husband, but those acts have no such influence on the interactive behavior of his other interactants). Some communicative behavior is interactive and informative (f), some is informative but not interactive (d) and there could be some communicative behavior which is neither interactive nor informative (e) (an example of the latter might perhaps be those schizophrenic acts consciously intended to communicate but which are not informative to observers and do not influence the interaction of even one receiver). Finally, there would be much informative behavior which is neither interactive nor communicative (a).

We have developed this terminology in order to clarify our own thinking and illuminate possible differences between our approach and those of Birdwhistell, of Scheflen and of Mahl. Birdwhistell and Scheflen have applied a communication framework to nonverbal behavior, based largely upon the argument that much of the nonverbal behavior they observe

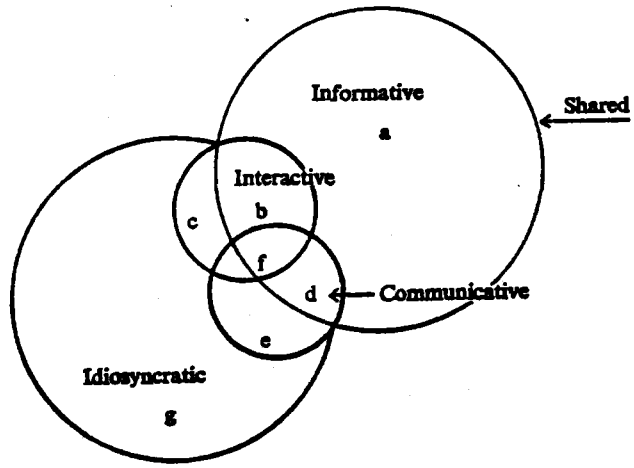

Fig. 1.

influences the behavior of the other interactants. We believe that their use of the term 'communicative' is too broad; it fails to distinguish among that behavior which has a shared decoded meaning (informative), that which influences the other person's interaction (interactive), and that which intended to transmit a message (communicative). Many nonverbal behaviors may have interactive effects, but not be intended to communicate nor best be considered as analogous to verbal communication. Similarly, nonverbal behavior with a shared decoded meaning may not be intended to communicate, nor be best considered as analogous to linguistic phenomena.

Mahl had this in mind when he suggested that the term 'informative' is more applicable than 'communicative' for shared decoded meaning, and we have changed our terminology accordingly, reserving the word 'communicative' for instances in which the sender consciously intends to transmit a message. Mahl's distinction between AUTISTIC and COMMUNICATIVE behavior, while valuable, can be improved upon. His concept of autistic action — those behaviors which have only idiosyncratic meaning, presumably in both encoding and decoding — while valid for some behavior, includes much behavior which also has a layer of related shared

meaning. Further, we think that the level of meaning, idiosyncratic or shared, is an inadequate basis for distinguishing fundamental categories of nonverbal behavior. In our opinion, such categories of nonverbal behavior (which we will soon describe) must be based upon differences in origin, coding and other aspects of usage in addition to level of meaning.

Another difficulty with Mahl's division of behavior into autistic and communicative actions, is that it has left much nonverbal behavior out. The term 'communicative', as he (and we) define it, refers to only part of what is not autistic; it applies only to those actions which are consciously intended to transmit a message. There are two other kinds of shared decoded meaning which need not be communicative; informative and interactive.

We again must emphasize that the distinction between idiosyncratic and shared, or among informative, communicative and interactive, refers to level or type of meaning, not to categories of behavior. Thus, a given act can have both idiosyncratic and shared levels of meaning (we will give examples of this when discussing the categories of emblems and adaptors). An act which is informative might or might not be interactive or communicative in any given instance. The categorical scheme to be presented here distinguishes nonverbal behavior in part in terms of the relative prevalence of informative, communicative and interactive meaning; the categories differ in the ratio of idiosyncratic to shared meaning but not all of the behavior in any category is exclusively one of these. Although we will speak of behavior as informative, or communicative or interactive, these terms cut across our five categories and refer to the information or type of meaning associated with a behavior, in any category, not a category of behavior itself.[3]

[3] In our past writing (Ekman, 1965a; Ekman and Friesen, 1968) we have not utilized these terms in the same way as we have now proposed. We used the terms 'indicative' and 'communicative' to refer to methods of research aimed at determining the encoded or decoded meaning of nonverbal behavior. But the use of the word 'communicative', even though we specified that it did not imply intention to communicate, may have been confusing, and so we now suggest reserving the term only for instances where there is evidence that the behavior was consciously designed to transmit a message. We had used the phrase 'communicative value' in discussing the decoded meaning associated with an act; now, for the same reasons, we suggest the term 'informative'. Finally, we had (Ekman and Friesen, 1965, 1967a) used the term 'interactive' to refer to any nonverbal behavior which occurs during an interpersonal interaction. Now we are proposing a much more restricted usage of that term, *viz.*, to refer to acts whose meaning can be shown to influence the interaction of the person perceiving it, in order to distinguish behavior of this sort from behavior which is also communicative, also informative, or only informative or only communicative, but not interactive.

Origin

The term 'origin' refers to how the nonverbal behavior originally became part of the person's repertoire, that is, the source of the action. Not all of the conditions involved in the origin are necessarily repeated in the later usage of an act. For example, a steering-wheel-arm-rotation act may have been originally learned as part of the instrumental task of driving a car, but be used conversationally with no car present to refer to problems of management or direction. At least three types of origin can be distinguished.

One origin of nonverbal behavior is a relationship between stimulus events and nonverbal activity which is built into the nervous system of every intact member of the species. A reflex is the most obvious example, and some authors have argued that facial expressions of emotion are also based upon inherited neurological programs.

A second origin is experience common to all members of the species; this differs from the first origin in that one need not assume that the nonverbal behavior is inherited, but rather that it is acquired as part of the species-constant experience of the human equipment interacting with almost any environment. For example, regardless of culture the hands will be used, with or without an implement, to place food in the mouth.

A third origin of nonverbal behavior is experience which varies with culture, class, family or individual. Some nonverbal behaviors are learned as part of an instrumental task in which the goal is mastery of a particular activity such as farming, driving, swimming, and in learning particular styles of eating, defecating, *etc.* Other nonverbal acts are learned as part of a social interaction, where the goal is the establishment or maintenance of a type of social interaction. Some nonverbal behaviors are learned explicitly with conscious attention from learner and tutor, or from only the learner; others are acquired more implicitly with less focus upon the acquisition process. Imitating the posture or facial expression of a favorite movie star may be quite explicit and practiced, while the acquisition of the posture or other movements of the same-sex parent may occur with less awareness on the part of the learner. Imitation can also be relevant to learning NOT to resemble another person's nonverbal behavior. The parent can explicitly caution the child about not talking with his hands or to smile when uncle and aunt visit; or the parental reinforcements can be more subtle, with neither child nor parent specifically aware of the reinforcement contingency.

Coding

The last of the three aspects of nonverbal behavior which must be examined is the principle of correspondence between the act and its meaning. The code which describes how meaning is contained in a nonverbal act, that is, the rule which characterizes the relationship between the act itself and that which it signifies, may be EXTRINSIC or INTRINSIC. An extrinsic code is one in which the act signifies or stands for something else, and the coding may be arbitrary or iconic.[4] An intrinsic code is in a sense no code in that the act does not stand for but IS its significant; the meaning of the act is intrinsic to the action itself. We will characterize these as three coding principles: ARBITRARY (extrinsic) codes, ICONIC (extrinsic) codes, and INTRINSIC codes.

Acts which are arbitrarily coded bear no visual resemblance to what they signify. In this they are like words, most of which do not sound like what they mean; exceptions are words like *slush* and *buzz*. When the opening and closing of the raised hand signifies greeting or departure, we have an example of an arbitrary coding of nonverbal behavior, since the movement does not intrinsically show what it signifies.

Acts which are iconically coded carry the clue to their decoding in their appearance; the nonverbal act, the sign, looks in some way like what it means, its significant.

Acts which are intrinsically coded are, like iconically coded behavior, visually related to what they signify. But unlike the iconically coded act, the intrinsically coded act does not resemble its significant; it IS its significant, at least in part.[5] If one person hits another during conversation, that is not similar to aggression; it is one form of aggression; the act is the significant.

Let us explore a little further the differences between the iconically

[4] Our use of the term iconic is taken from Morris (1946), who said "An iconic sign, it will be recalled, is any sign which is similar in some respect to what it denotes. Iconicity is thus a matter of degree... the strength of the iconic sign lies in its ability to present for inspection what it signifies...." Ruesch (1956) said that the distinction between digital and analogic codification was relevant to nonverbal behavior; the former is more characteristic of verbal and the latter of nonverbal behavior. This distinction is very similar to the way we have described arbitrary and iconic coding. The terms, analogic and digital, moreover, involve further specifications of the mathematics relevant to modeling information processing, and the question of continuities in items of information, which are not necessary to our distinction here. For further discussion of analogic and digital coding, with special reference to nonverbal behavior in infrahuman organisms see Sebeok (1963) and Diebold (1968).

[5] The recognition of the need to distinguish intrinsically coded from iconic behavior grew out of a discussion with Silvan Tomkins.

and the intrinsically coded act. When a person waves his fist menacingly, but laterally and with a particular tempo and position of the fingers, the movement of the hand resembles an aggressive act; but it is not that act; rather, depending on its visual appearance, it could be part of a politician's victory speech, an athletic coach's encouragement to ferocity, *etc.* However, if a person waves his fist, not to show something similar or analogous to what he will do, but literally to enact the movement involved in aggression, even if he does not touch another person we have something closer to an intrinsically coded act.

If a person runs a finger under his throat to signify 'having one's throat cut' or more figuratively, 'an unfortunate outcome', this is iconic coding since one cannot cut a person's throat with the finger, and the finger is standing for the knife. Similarly, a trigger finger movement made in the usual manner is an icon, since the hand is used in a way that makes it look like a gun, but the hand is not a gun, and the action of the fingers has nothing to do with the action involved in pulling the trigger of a gun. However, if one holds his hand just as one would with a gun in it, and moves his finger as if to pull a trigger, then we have an action which does not resemble the significant, but is the action involved in the significant. If the hand held a gun, we would have a clear example of an intrinsically coded act; if the hand formed the shape of a gun, we would have a clear example of an icon. But, even when the hand performs only part of the act of firing a gun, if that performance is part of the literal action involved in the total act, it is intrinsically coded, though its meaning may be obscured by the absence of a gun.

The line between the iconic and intrinsically coded act may appear to be a fuzzy one particularly in the case of an act which is only a part of a total action; (*e.g.*, forming the hand as if it held a gun requires that one infer the presence of a gun in order to comprehend this act). The iconically coded act is often easier to comprehend and simpler to utilize as a communicative signal; it is more stylized, starker, perhaps more abstract, and will leave out many of the details involved in the intrinsically coded act which it may resemble.

Let us now refine further the ways in which a nonverbal act is related to its significant, both when the relationship is an iconic code and when the meaning is shown in an intrinsic code. This discussion is not relevant to the arbitrary code, because we will only discuss different types of visual relationships between act and significant.

PICTORIAL. A pictorial relationship is one in which the movement shows its meaning by drawing a picture of an event, object or person (*e.g.*,

using the two hands to show the size or shape of an object). By definition, pictorial behavior is iconic.

SPATIAL. A spatial relationship is one in which the movement indicates distance between people, objects or ideas (*e.g.*, placing the hands close together to show intimacy, or how the car nearly hit the pedestrian). By definition, spatial behavior is an iconic code, which depicts spatial distance without actually changing it. For example, bringing the two hands together to propose greater intimacy is a spatial iconic code. However, moving closer to a person to indicate the same thing is not a spatial iconic code, but an intrinsically coded, kinetic act (see below).

RHYTHMIC. A rhythmic relationship is one in which the movement traces the flow of an idea or accents a particular phrase, or describes the rate of some activity. It carries no message content apart from information about tempo, and is by definition iconic. (Not included in this definition is behavior in which rhythmic elements are part of a kinetic code and do have message content.)

KINETIC. A kinetic relationship is one in which the movement executes all or part of an action performance, where that performance either signifies or is the meaning, at least in part. This action performance can signify a meaning by resembling another action (*e.g.*, the throat-cut movement); in this case it is an iconic code. Or, it can actually be part or all of the action it signifies (*e.g.*, fist-waving or the more extreme behavior of hitting); in this case the behavior is a kinetic, intrinsically coded act.

POINTING. A pointing relationship is one in which some part of the body, usually the fingers or hand, points to some person, to some part of the body, to an object or place. Or, the referent may be a more abstract attitude, attribute, affect, direction, or location. Pointing is always intrinsically coded; the act means 'to show something'; the something is the target or referent of the point and, of course, can vary.

In sum, pictorial, spatial and rhythmic relationships between movement and meaning are always iconic. Kinetic relationships may be either iconic or intrinsic. Pointing is always intrinsically coded. It should be noted that, typically, nonverbal behavior combines elements of more than one code. For example, a pictorial code may include spatial elements; a spatial code may include rhythmic elements.

FIVE CATEGORIES OF NONVERBAL BEHAVIOR

As mentioned earlier, and as the examples should have made clear, nonverbal behavior is not a single, unified phenomenon with but one

type of usage, one origin and one form of coding. Instead, facial and body behavior involve a number of quite different kinds of behavior which will be described in terms of five categories distinguished by the particulars of usage, origin and coding. This categorization of nonverbal behavior owes most to the writings of Efron (1941) and to a series of discussions with Mahl in which we attempted to clarify some of the issues implicit in his dichotomization of nonverbal behavior (Mahl, 1968). We have attempted, where possible, to avoid inventing new terms, and have therefore taken from Efron, even though frequently we have defined them differently to avoid contradictions.

Emblems

The first type of nonverbal behavior is what we have previously defined with the term 'gesture'. But that word in common usage is too inclusive; let us substitute a term proposed by Efron (1941), 'emblems'.[6] Emblems differ from most other nonverbal behaviors primarily in their usage, and in particular in their relationship to verbal behavior, awareness and intentionality. Emblems are those nonverbal acts which have a direct verbal translation, or dictionary definition, usually consisting of a word or two, or perhaps a phrase. This verbal definition or translation of the emblem is well known by all members of a group, class or culture. While we usually think of emblems as general, at least within a culture or language group, clearly for groups within a culture such emblems as secret signs for fraternal orders fit our definition. An emblem may repeat, substitute, or contradict some part of the concomitant verbal behavior; a crucial question in detecting an emblem is whether it could be replaced with a word or two without changing the information conveyed.

People are almost always aware of their use of emblems; that is, they know when they are using an emblem, can repeat it if asked to do so, and will take communicational responsibility for it. Similarly, the use of an emblem is usually an intentional, deliberate effort to communicate; but there are exceptions. We have seen people make a fist, which within our culture is an emblem for anger or hitting, and yet be quite unaware of having done so; we have similarly seen obscene gestures shown during

[6] Efron used this term only for those gestures which are not morphologically related to what they signify; emblems could only be arbitrarily, not iconically coded. Our use of the term is broadened to include both. Ruesch (1956) used the word gesture to cover what we are calling emblems, noting their conscious intentional use to communicate; but he also included as gestures the category which we will describe as illustrators, and further emphasized that the gesture must be symbolic, a requirement which to us seems relevant to the arbitrary, but not to the iconic gestures or emblems.

a conversation, with absolute denial by the sender that he used such an emblem. The fact that an emblem is shown without awareness on a particular occasion does not bear upon the question of whether the action is an emblem; emblematic status is determined by the shared decoded meaning and the conscious intentional usage across some group of individuals. There can be emblematic slips, much like slips of the tongue, where the sender just does not know what he has done. But in determining whether an action is emblematic, again we want to emphasize that unconscious intent is not sufficient for our definition.

Emblems occur most frequently where verbal exchange is prevented by noise, external circumstance (*e.g.*, while watching a play), distance (between hunters), by agreement (in the game of charades), or by organic impairment (the deaf mute). In such instances, emblematic exchange carries the bulk of messages which would typically be communicated through words. Emblems, of course, also occur during verbal exchange. We are not certain why they are used at one point in a conversation and not another; might it be that emblems are used around the more ritualized aspects of conversation, such as greetings and departures, or changes in status or topic; or might it be that emblems occur when matters get heated; or might it be that emblems are used to derogate the impact of what is said verbally?

Emblems are the most easily understood nonverbal behavior; by our definition they have a quite specific, agreed-upon meaning. We would expect that they are the most frequently attended to nonverbal behaviors, simply because they have been so explicitly defined. Receiver feedback, direct comment by the other interactant on an emblem, its meaning or implication, is within U.S. culture quite acceptable.

In a sense, emblems seem to carry less personal information than other categories we will later discuss, perhaps because emblems are so much more intentional and within awareness than other nonverbal behaviors, and like words, the time and place to use an emblem is usually chosen with some care. Emblems usually have a much higher proportion of shared than idiosyncratic meaning, although it is possible, as Mahl (1968) pointed out, for emblems to have an idiosyncratic level of meaning in addition to their shared meaning. Emblems are communicative behavior, although there are rare instances when they are emitted without awareness. Emblems often are interactive in that their usage tend to draw the perceiver's attention, and their shared decoded meaning would increase the probability that they would affect the other interactants' behavior.

We have been considering the usage of emblems; let us now consider

their origins. Emblems originate through learning, much of which is culture-specific. Efron's study of the nonverbal behavior of Jewish and Italian immigrants to the U.S. and of their offspring showed major differences between the immigrant groups in emblematic behavior. Saitz and Cervenka (1962) have catalogued differences in emblematic behaviors between Colombia and the U.S.

We would expect that emblems are usually learned much like verbal materials. Emblems can be shown in any area of the body, although in the U.S. emblems are primarily shown by the face and hands. Emblems can be based upon what we will later describe as affect displays and adaptor nonverbal behaviors; for example, the raising of the brows and horizontal forehead wrinkle which are usually part of the surprise affect display can be emblematic, if the culture pays specific attention to and prescribes a very specific meaning to that facial behavior, although the emblematic meaning might be different from the affect.

Some emblems are arbitrarily coded, in that the action does not look like what it means. The sign alphabet language of the deaf contains a number of finger movements where the fingers do not look like the shape of the letter; these are arbitrarily coded. Other finger signs are iconically coded, in that the fingers are placed into a position which closely resembles the alphabet letter they stand for. The 'body-signs' of the deaf which employ an action to convey a word or phrase are iconic (resembling their significant visually). The tracing of the body outline of a woman is an iconic-pictorial emblem in which the hands draw a picture of a shapely woman to state sexual attractiveness. The making of a fist, or shaking of a fist, is usually an iconic-kinetic emblem. While an intrinsically coded act could be an emblem, it seems likely that if an act achieves emblematic status it will become highly stylized for convenient use as a communicative signal, with some elements of the act altered or deleted for ease of performance and clear discriminability, and thus the act would be better considered as iconically coded.

RESEARCH IN PROGRESS: Our research on emblematic behavior is directed to three types of questions.

(1) Is there a set of emblematic 'words' which can be arranged to create emblematic phrases or sentences? Is the size of the emblematic vocabulary similar across cultures; if not, what are the factors correlated with variations in size? Our focus is descriptive, to map the emblematic vocabulary of specific cultures, and to determine the syntax of emblematic statements.

(2) Are the same message domains emblematic in various cultures? Do the same types of information become emblematic in all cultures;

do all cultures have, for example, emblems for greetings and departures, for statements of hunger or satiation? Peculiarities in the environmental conditions in which communication occurs, and the state of development of the technology of communication might lead to the production of a large number of emblems for a specific message domain in one culture but not in another. For example, a warring society which conducts guerrilla warfare but which lacks the technology for quiet verbal communication among its members, and where the terrain permits line-of-sight observation over fairly long distances, might develop a large number of emblems to convey information back and forth between warriors as they approach their prey.

(3) Are there pan-cultural emblems; what would distinguish these from culture-specific emblems? We expect that arbitrarily coded emblems will probably not have the same meaning across cultures, because by definition the act does not visually show its significant; for example, one does not know which letter is signified by arbitrary finger signs unless one has memorized the language. Iconically coded emblems will tend to elicit the same decoding across cultures, simply because at least part of the significant is visually shown in the movement. Just because iconic emblems will be decodable across cultures, such similarity in decoding of emblems is not a sufficient criterion for claiming an emblem is pan-cultural. It must also be shown that the action is encoded as an emblem within each culture being examined. Our hypothesis is that pan-cultural emblems will tend to be primarily those which refer to or show the activity of a body function such as eating, lovemaking, and those which refer to the simplest human activities, such as walking, sleeping, sitting, touching, building. Such emblems will be pictorial-iconic, or kinetic-iconic, or pointing-intrinsic in their coding. Culture-specific emblems will tend to be those which refer to more complex human activities, those which refer to cognitive events, and those which include reference to tools or to unique features of the ecology. All arbitrarily coded emblems will be culture-specific; some iconically coded emblems will be culture-specific in encoding, but understandable by members of another culture.

We have developed a rather simple method for beginning our study of emblems, in collaboration with Carleton Gajdusek [7] and Richard

[7] This research on emblematic behavior in the South Fore of New Guinea is a joint endeavor between our research group at Studies in Nonverbal Behavior of the Langley Porter Neuropsychiatric Institute, the University of California Medical School, and the Center for the Study of Growth, Development and Disease in Primitive Cultures, of the National Institutes of Neurological Diseases and Blindness, directed by Carleton Gajdusek.

Sorenson. While working among the South Fore of New Guinea we compiled an *a priori* list of messages which might be emblematic within any culture. As we thought about it and checked with a few highly acculturated informants, the list grew to about 60 messages, such as *Hello, I am hungry, It's going to rain, You stay here, etc.* We then sat down with subjects and explained the concept of talking with your hands and body, and took motion picture films of the subject's attempt to show an emblem for each message on our list. Even in work with informants who had seen very few Caucasians and spoke no pidgin, we found that in less than a half hour they understood what we were interested in, and would not only perform emblems for us, but volunteer ones not on our list. The main problem we encountered was the subject's wish to please us; it was obvious that we were interested in this behavior and most subjects wanted to give us an emblem for each message, even when they did not know what to do and had to invent and essentially perform a charade. Emblems can be distinguished from charades by reaction time between instruction and performance, which is very short for an emblem, and usually much longer while the subject innovates for a charade; and safeguards are provided by comparison of nonverbal behavior performed for the same message by different subjects, which is identical if the message is emblematic and quite different if the behavior is a charade.

Our analysis of these films is directed toward uncovering the basic emblematic units through comparisons across filmed subjects, and across messages comprised of the same set of verbal words but in different syntaxes, *e.g., You go, I stay, I stay, you go, We stay, then go.* The second step is to draw comparisons between cultures of the message domains which have been found to be emblematic. A third step in the analysis is to test our hypothesis about the basis for pan-cultural emblems by isolating these emblems through comparisons of the New Guinea films with films of other cultures,[8] showing the emblems to observers in various cultures, and checking the similarity in their decoding. We are in the first phase of this research, and can report that there seem to be both minimal emblematic units, emblem phrases, and an emblem syntax; there are pan-cultural emblems — actions which fit our definition of emblems and which are identical among the people of the U.S., the South Fore of New Guinea and Argentinians. It appears that our hypothesis

[8] We have begun a study of emblematic behavior among Spanish origin and Italian origin Argentinians as a joint research project with the Centro de Investigaciones Psychiatriquas, Buenos Aires, directed by Carlos Sluzki.

about the nature of these pan-cultural emblems will be supported at least in part.

Future work on emblems will involve the completion of this film collection in New Guinea, Argentina and Japan, the analysis of the films, and the selective presentation of filmed examples of emblems to individuals in different cultures. When we have learned the emblematic vocabulary for a particular culture, we will then examine emblematic usage. Under what conditions are emblems employed within a culture; are there any constants across cultures which are relevant to the occasions under which emblems are naturally shown? Investigation of this question will require long periods of field observation of the natural occurrence of emblems; but it must await the determination of the emblematic vocabulary, so that the observer knows what to look for.

Illustrators

The next class of nonverbal behavior is the illustrators; they are movements which are directly tied to speech, serving to illustrate what is being said verbally. While Efron did not group them together, we can utilize his terminology and distinctions to isolate 6 types of illustrators: BATONS, movements which time out, accent or emphasize a particular word or phrase, 'beat the tempo of mental locomotion'; IDEOGRAPHS, movements which sketch a path or direction of thought, 'tracing the itinerary of a logical journey'; DEICTIC MOVEMENTS, pointing to a present object; SPATIAL MOVEMENTS, depicting a spatial relationship; and KINETOGRAPHS, movements which depict a bodily action. The sixth type of illustrator, not described by Efron, is PICTOGRAPHS, which draw a picture of their referent.[9] Illustrators can also include the use of an emblem to substitute for, repeat or contradict a word or phrase; and, similarly, illustrators can include a facial affect display (which will be later described).

It should be clear that we are not proposing that the illustrator category is exclusive of the others; assignment of an act into this category depends upon usage in a given instance.

[9] Freedman and Hoffmann (1967) distinguished a number of types of object-focused movements which closely resemble the illustrator sub-types we have proposed. They included punctuating movements (our batons), literal-reproductive movements (which would include our sub-types of deictic, iconographic, kinetographic, pictographic), and literal-concretization (which would be like our ideographic). Their categories of minor qualifying and major qualifying movements are more difficult to fit into our scheme. Rosenfeld's (1966) category of gesticulation includes both emblems and illustrators; he found that gesticulations were more frequent among individuals seeking approval from their fellow interactant.

Efron pointed out that the first two types of illustrators, batons and ideographs, have no independent meaning or connotation when viewed without hearing the words, while the other illustrators have meaning independent of the words, and would convey something of the speech content if viewed without hearing the speech. But all of these illustrators share the attribute of being intimately interrelated with the concomitant verbal behavior on a moment-to-moment basis; they are directly tied to content, inflection, loudness, etc.[10] Illustrators can repeat, substitute, contradict or augment the information provided verbally.

Illustrators are quite similar to emblems in terms of both awareness and intentionality. The person using an illustrator may be slightly less aware of what he is doing, and his use of illustrators may be somewhat less intentional. Most illustrators would be informative, providing shared decoded meaning which is intimately related in one of the ways we described to the verbal behavior. Some illustrators could be considered communicative as well; they are probably at least as intentional as the words spoken when the speaker is excited and not exercising forethought and care about his choice of words. Illustrators could be interactive, but whether they are or not would depend on the total context in which they are shown.

Illustrators receive some external feedback from the observer, who will usually pay obvious visual attention, although he may not verbally comment as often on illustrators as on emblems.

Illustrators are socially learned, primarily through imitation by the child of those he wishes to identify with or resemble. Public speaking courses can teach the use of specific illustrators, although this practice was much more common 40 years ago in the days of eloquent oratory.

The type of illustrators used will vary with the ethnic background of the individual, as Efron found between Italian and Jewish immigrants (the Jewish immigrants used more of the batons and ideographs, the Italians more of the kinetographs and pictographs; assimilated first generation offspring no longer showed these differences while those who maintained closer contact with the traditional customs still showed the differences in illustrators).

All of the illustrators are either iconically coded or intrinsically coded, most usually the former. The deictic illustrator is a pointing movement

[10] Dittmann's (1966) finding that certain head and hand movements are related to phonemic clauses in speech may be pertinent to the illustrators, although his measures did not differentiate among categories of nonverbal behavior except in terms of body area involvement.

and therefore intrinsically coded. The batons and ideographs are forms of rythmic-iconic coding. They tell no message, in the sense of conveying message content; Efron said they were logical-discursive. They are still iconically coded, but in terms of the rhythm. The spatial illustrators are iconic if they represent spatial relationships, intrinsically coded if they actually change spatial relationships. Pictographs, described earlier as pictorial codes, are iconic because by definition a picture must resemble but cannot be its significant.

Kinetographs are kinetic behavior, iconic if they represent the movement of a natural force or mechanical action, or if they resemble a human action, and intrinsically coded if they reproduce a human action, at least in part.

RESEARCH IN PROGRESS: We are currently applying our classification of illustrators to a collection of 120 sound motion picture films of interviews with psychiatric inpatients. The interviews were standardized, covering a limited number of topics; each patient was usually interviewed three times, once upon admission, once during hospitalization, and finally shortly before discharge. We are comparing the frequency of occurrence of the six types of illustrators with another type of nonverbal behavior, hand-to-face self-adaptors, which will be discussed later. Our first aim is to determine whether our classification of illustrators actually can be operationalized in application to motion picture film records. We are also testing a number of hypotheses: (1) Frequency of illustrator actions will increase as the patient moves from the acute phase of a psychiatric disorder to the remitted state, while the reverse correlation with psychopathology will be found for hand-to-face self-adaptors. (2) The type of illustrator movement shown will be constant for a given person regardless of degree of psychopathology, although we are predicting changes in frequency of occurrence (this hypothesis is based upon Efron's findings which suggest that the type of illustrator is related to ethnicity). (3) Particular types of hand-to-face movements (grooming, autoerotic, and attacking), more than illustrators coincide with breaks in inter-ocular contact between patient and interviewer. We are also investigating the relationship of both illustrators and hand-to-face movements to phonemic aspects of speech.

Affect Displays

Our discussion of affect displays begins with consideration of the site of this category of nonverbal behavior (the face), and then proposes the universality of one aspect of affect displays, the movements of the facial

muscles in association with primary affects. The concept of primary affects, a tentative list of what they may be, and some of the factors which might account for pan-cultural elements in such displays, will then be discussed. We will turn from these considerations largely about the origin of affect displays to a discussion of their usage in which we will distinguish and separately consider the evoking stimuli, the display rules which modify the movements of the facial muscles, the occurrence of affect blends, and the behavioral consequences of affect displays. We then consider coding, and finally report research in progress on affect displays.

We agree with Tomkins (1962, 1963, 1964) that the face is the primary site of affect displays. Some facial behaviors, however, such as mouth movements which result from talking, lip bites and eye closures are better characterized as 'adaptors', to be described later. Some body movements are affective displays, such as the startle response and, perhaps, trembling; but generally body movements occur in response to affect and are relevant to how the person will cope with the facially displayed affect; they are the behavioral consequence of the affect, rather than display of affect itself (the relationship of body movement to affect is discussed at some length in Ekman and Friesen, 1967a).

We agree with Tomkins and with Darwin that there are distinctive movements of the facial muscles for each of a number of primary affect states, and these are universal to mankind. There has, of course, been considerable disagreement about what the PRIMARY AFFECTS are. Despite differences in theoretical orientation, methods, nationality of the subjects studied, and decade when the investigation was performed, the studies of Frijda (1963), Nummenmaa (1964), Osgood (1966), Plutchik (1962), Schlosberg (1941), Tomkins (1964), Woodworth (1938) and ourselves (Boucher and Ekman, 1965; Ekman and Friesen, 1967a) reveal some consistencies which suggest a tentative, perhaps partial, list of primary affects: happiness, surprise, fear, sadness, anger, disgust and interest.

Each of these affective states can easily be distinguished by observers of facial displays within this culture, and we have found that most of these affects can be just as readily distinguished by observers in other cultures,[11] although language difficulties in translating or finding a correct word to describe an affect, and the strangeness in some cultures of the task of looking at a photograph or film and judging affect may introduce

[11] Working independently, Izard (1968) has recently obtained data on similarities in the recognition of affect displays across cultures.

errors which might be misinterpreted as cultural difference. Other problems which make it difficult for an investigator to demonstrate pancultural elements in the recognition of facial affect displays will be discussed later in connection with evoking stimuli, behavioral consequences, display rules, and blends.

If observers can distinguish among these seven affective states when viewing the human face, then there must be some specifiable cues in a facial display which could be coded or quantified to measure affect. Later, when discussing our research in progress on affect displays we will briefly mention an attempt to develop a facial affect scoring technique.

We are not certain what might account for similarities across cultures in particular facial muscles which move when a particular affect is aroused. Darwin claimed that affect displays have evolved from the functional activities associated with these facial muscular movements. This explanation would require inherited mechanisms which relate affective arousal to specific distinctive patterned movements of the facial muscles. Tomkins has proposed a theory of how such mechanisms might work, and believes that at least some of the evoking stimuli which elicit an affect are built into the organism. While not disagreeing with Tomkins, we have become interested in alternative explanations which do not presume an inherited association between evoking affective stimuli and distinctive patterned facial muscular movements for each primary affect. It might be that affective facial displays evolve in the same way for each individual during the course of his development; these affective facial displays might be elaborations of or in part initially based upon constants in the human equipment involved in performing rudimentary activities, or upon certain reflexes. The disgust affect display, for example, might evolve in each person's development from the movements of the mouth and nose involved in ejecting a bad taste or smell; but simple regurgitation or spitting would not be considered an affective display although this would be the constant in the human equipment which facilitates the development of similar disgust displays. Anger affective displays might evolve from the muscular movements in the mouth and eye areas necessary to preventing rupturing of capillaries in the eyes and lungs, whenever major physical exertion is undertaken, or perhaps from biting movements; the constants would be the strain-exertion or biting movements, which facilitate the similar development of anger displays. Sadness might develop from the lax state of exhaustion, perhaps with some of the features associated with the long term endurance of physical pain; the pain contractions and the lax state would be the constants. Fear might evolve from a combination

of the startle reflex and the pain contractions. We are not satisfied with this account (it is particularly weak in explaining the facial affect display of happiness; but Darwin also had trouble with providing a functionally based evolutionary explanation of this display and had to invent his principle of antithesis). Clarity on this question requires further research. Of particular value would be a close study of visual records of the development of affect displays in the first few years of life across two cultures with blind and sighted children.

The assertion that there are universal distinctive movements of the facial muscles for each of a number of primary affect states is not as yet a proven fact, and many would disagree. We believe that some of the impressions of cultural differences in affect display have arisen from a failure to distinguish adequately the pan-cultural elements from the circumstances governing the display of affects which are markedly influenced by social learning and vary within and between cultures. We believe that, while the facial muscles which move when a particular affect is aroused are the same across cultures, the evoking stimuli, the linked affects, the display rules and the behavioral consequences all can vary enormously from one culture to another. Figure 2 illustrates the various aspects of facial affect displays which we will consider.

The EVOKING STIMULI which elicit an affect may well differ from one culture to another. Tomkins has argued that while there are at least some unlearned affect evokers, social learning teaches the individual a number of associations between events, memories, anticipations and affect. For example, when a person is angry the facial features will show a given configuration, but what provokes anger is at least in part determined by social learning, and will vary among cultures. A common pitfall in cross-cultural research on affect display is to infer a common emotional state simply because the same event is being compared in two cultures; in actuality the event may evoke a different affect in each culture, and the differences in facial behavior may reflect those differences rather than differences in the facial muscles associated with affect in each culture. For example, culture X might show up-turned lips, nasolabial folds, and almost closed eyes at funerals, while culture Y might show down-turned lips, stretched lower lip, partially closed eye lids, nostril dilations at funerals. Before stating that the facial display of sadness varies across cultures it would be necessary to verify that the stimulus "funeral" normatively evokes the same affect in the two cultures, rather than being a stimulus for joy in one culture and for sadness in another.

AFFECT CONSEQUENCES
VISIBLE FACIAL BEHAVIOR DISPLAY
DISPLAY RULES
Amplify
De-amplify
Neutralize
Blend
Mask
PANCULTURAL
AFFECT "PROGRAM"
FACIAL MUSCLES IN ASSOCIATION WITH:
Happiness
Anger
Surprise
Fear
Disgust
Sadness
Interest
AFFECT ANTECEDENTS
(Environmental, Expectations, Memory, etc.)
CULTURALLY VARIABLE (IN PART)

Fig. 2.

DISPLAY RULES are socially learned, probably quite early in life, and prescribe different procedures for the management of affect displays in various social settings, roles, *etc.* We can distinguish at least four display rules. One rule is to de-intensify the appearance clues to a given affect; for example, when one is extremely fearful he must attempt to look only moderately or slightly fearful. A second display rule is to over-intensify: for example, when one is slightly fearful he must attempt to look extremely fearful. A third display rule is to look affectless or neutral; for example, when one is fearful, he must attempt to look as if no affect were being experienced. A fourth rule is to mask the felt affect as completely as possible by dissimulating it with another affect; for example, when one is fearful, he must attempt to look happy.

We believe that there are well-established social norms about which display rule is appropriate for each affect when experienced by individuals of varying status, role, sex, age, physiognomy, *etc.* These display rule norms take into account not only the characteristics of the displayer, but also those of any other persons present when the display is evoked, and of the social context. Such display rule norms are over-learned, and will vary from one culture to another. In cross-cultural comparisons of affect displays it is important not to interpret evidence as showing a basic difference in the muscles involved in an affect display when the difference was due to the application of display rules differently in the cultures being compared. Returning to our example of a funeral, let us suppose that we are comparing two cultures where this event has the same evoking characteristic of sadness; it is still possible that in one culture the display rule will be to over-intensify the affect, while in the other the display rule will be to mask it with a pleasant demeanor. Without highspeed photography and slow motion inspection of the films to see the initial sad movements in the one culture, the observer may gain the impression that sadness produces different facial muscle movements in the two cultures.

Tomkins' (1964), Plutchik's (1962), Nummenmaa's (1964), and our own studies have suggested that at any given instant in time the face typically conveys AFFECT BLENDS (multiple emotions), rather than a single emotional state. The map of the facial features is sufficiently complex to allow the display of mixtures of two or more emotions simultaneously. Affect blends may be dictated by the evoking circumstances; or, they may be dictated by learned habits which associate one emotion with another. The particular affects which are blended can vary for individuals, families and social classes, or may be common within a culture. We should note

that these affective combinations can occur not only simultaneously as blends, but in rapid sequence.

Blends also may lead to confusions in cross-cultural comparisons of affect display. If for one culture the sadness evoked by a funeral is normatively blended with fear, but in another culture sadness is blended with anger, there will be differences in the facial displays. We are arguing that these differences should not be interpreted as signifying that the movements of the facial muscles in association with affect are completely variable from one culture to another, but should be attributed to differences in the habitually blended affect.

A last variable to be considered is the BEHAVIORAL CONSEQUENCE of an affective display. The behavioral consequence of an affect display can be most readily determined from the body posture and movements, although the face may show the affect associated with a given behavioral consequence. We interpret the movements and postures of the body which coincide with and follow a facial affect display as coping with the facially displayed affect. Such movements often do not differentiate one facial affect from another; for example, the behavioral consequence of flight may occur as a coping procedure for anger, fear, or even disgust in particular social contexts. The fact that people show very different body movements after displaying the same facial affect should not be interpreted as meaning that the facial affect is meaningless, or inconsequential.

We have been arguing that the movements of the facial muscles are the basic building blocks of affect displays, and that these are the pan-cultural elements of affect. Yet, such movements are embedded in a context; they may be elicited by different stimuli, be operated upon by different display rules, be blended with other affects, and be followed by different behavioral consequences. We do not mean to belittle these factors; in actuality we want to focus attention on these factors as the major sources of cultural differences in affect display. But our argument has been to emphasize the difficulty in uncovering the pan-cultural elements, and to caution against the danger that they may be obscured by a failure to isolate each of the variables listed in our figure.

Although we usually are aware of our facial affect displays, they may occur with or without a deliberate intention to communicate. Similarly, inhibition of facial display, control of facial display, or dissimulation of an affect (looking cool even when tense), may or may not be intentional. Because we have such good feedback about our facial behavior, we usually are aware of what happens the moment we change facial movements; we can monitor, inhibit and dissimulate with our faces. The

problem for the observer of facial affect displays, if there is any suspicion that deception may be in progress, is to detect which affect displays are lies, and which are more involuntary leakage (Ekman and Friesen, 1969).

Facial behavior in general, and affective displays in particular, receive great attention and external feedback from the other interactant, in terms of direct comments on facial behavior. While people do not continually look at each other's faces, for to do so would be to start flirtations, power struggles or questions of suspicion or distrust, the face receives more visual attention from the other person than any other part of the body, and we are more likely to comment on a facial expression. We are not certain whether observations about the external feedback given to facial behavior are limited to the U.S. or Western cultures.

Affective displays carry more personal information than illustrators or most emblems. The most personal or idiosyncratic information comes not just from the display of a particular emotion, but from the affective blends, the affective sequences, and the extent to which the affective display is influenced by the setting. In the U.S., the norms about what affects are allowable or expected in different social settings are rather well known. Affective displays are appropriate in certain public places, not in others; *e.g.*, at funerals, weddings, athletic events, but not in restaurants.[12] The appropriateness of affective displays is also governed by the role position, age and sex. The mapping of norms in different cultures for affective displays, affect blends, affect sequences and affective behavioral consequences, in different social settings, interpersonal roles, age levels and sexes, is a central problem.

Affect displays can be related to verbal behavior in a number of ways. They can repeat, qualify or contradict a verbally stated affect, or be a separate, unrelated channel of communication. Affect displays can be emblems, in that a particular social group or culture may select an entire affective display or an element of an affective display and code it so explicitly that it is recognized and used as an emblem; the smile in many cultures is such an emblem.

Most affect displays are informative, particularly if they are of sufficient duration to be easily observed. Much of the confusion in the perception of affect displays, we believe, may be due to the presentation of seemingly contradictory blends of affect simultaneously or sequentially. Affect displays often have interactive consequences, modifying the behavior of the other interactant. Much affect display would not be commu-

[12] Goffman, Erving, *Behavior in Public Places* (London, Collier-MacMillan Ltd., 1963).

nicative; much of it is emitted without intention to transmit a message. Even the operation of the display rules to modify affective displays usually occurs below the level of awareness, based on deeply rooted habits, with little intention to transmit a message. But, there can be communicative affective displays in which the sender purposely emits a muscular movement to send a message. Elsewhere (Ekman and Friesen, 1969) we have discussed the differences between communicative and non-communicative displays. We have emphasized the shared level of meaning associated with the muscular movements of the face. These affective displays also have an important level of idiosyncratic meaning; the particular blends, the particular display rules employed in particular circumstances, the particular affect evokers, and the imagery, expectations and past events associated with particular affect displays would provide idiosyncratic information.

The coding of facial affect displays is not at all obvious. Both Darwin's explanation of the evolution of such displays, and our account of how certain displays may naturally develop in the course of each person's life, would suggest that some affect displays are either intrinsically coded or iconic. This may be so only for some affects; if we accept Darwin's principle of antithesis as the explanation of the happiness display, then it would be arbitrarily coded.

RESEARCH IN PROGRESS: In collaboration with Silvan Tomkins we have been developing a Facial Affect Scoring Technique (FAST), a coding scheme for the various facial cues associated with each of the primary affects. FAST is designed to be applied to either still photographs or motion picture film, and the scoring shows which affects are present. No attempt, as yet, is made to distinguish between felt and simulated affect. Our development of FAST borrows most heavily from the work of Duchenne, whom Darwin had quoted extensively. We are now conducting our first direct validity test of FAST. However, preliminary and partial use of FAST, in the experiment to be reported next, has given us some indirect evidence.

We have been comparing observers' interpretations of the same set of facial affect displays across different cultures. The stimuli used in this experiment were selected by ourselves and Tomkins, partially on the basis of FAST. We scanned over three thousand still photographs, with the FAST scoring system in front of us; but we did not systematically apply FAST to all stimuli and then pick those which fit our scores for each affect. Instead, our judgment was more subjective, although we believe it was guided by FAST. Our major basis for rejecting stimuli

was the occurrence of blends of two or more affects in a given photograph; we chose only 'pure', single affect photographs. Our final set of stimuli included 34 pictures of males and females, some children, many adults, professional actors, amateur posers, and spontaneous photographs of mental patients. These stimuli were shown to observers (college students) in the U.S., who were instructed to pick from a list of 8 terms the affect which fit the photograph (we had included pain stimuli and pain as a judgment choice for another study we won't report here, although we do not consider pain an affect).

The results are remarkable, in three respects: very high agreement among observers in their recognition of affect displays; the observers decoded almost all the facial stimuli as we had predicted; and, the stimuli were decoded the same in more than one culture. There was more than 70 % agreement among American observers on a particular affect label (when choosing from a list of 8 terms), for 32 of the 34 stimuli. The majority affect label chosen for the stimuli was as we had predicted for 30 out of the 34 stimuli, thus providing indirectly some evidence for our selection of stimuli, and encouragement that FAST may be validly describing the cues associated with the recognition of affect displays. The four pictures where the observers decoded affects we had not predicted involved minor errors (which can be either considered ours or the observers). Two stimuli we considered to show disgust were called contempt by about half the judges, while the remainder said disgust. Two stimuli which we had called slight pain, were labelled sad.

Our results from showing these stimuli to college students at the National University in Brasilia are almost identical. The same high level of agreement among observers, and their interpretation of the affect shown by each stimuli differed from the U.S. on only one of the 34 stimuli, a disgust photo in the U.S. called contempt in Brazil.

While we would like to interpret the similarity in the decoding of affect between Brazilian and U.S. observers as evidence of the pan-cultural aspects of affect displays, there is a major problem in such an interpretation. The Brazilian and U.S. observers both share some of the same visual input, they both see some of the same people in motion picture films and television who may serve as models of affect display to be imitated, they both see tourists from the other country. Perhaps both groups have learned the recognition of affect from the same sources. In order to meet this criticism, we initiated studies of affect display in New Guinea where we were able to obtain observers who had not seen any movies, television, and where some had seen very few Caucasians.

This investigation in collaboration with Sorenson and Gajdusek has primarily focused on a South East New Guinea highland culture, the South Fore. We showed the 34 stimuli, which had been used with U.S. and Brazilian observers, to a variety of subjects who varied in extent of acculturation from those who wore western clothes and had learned Pidgin or English in a mission or government school, to those who had never gone far from their village, wore traditional clothes, spoke no Pidgin, and had seen less than ten Caucasians. In one study, mission educated Fore subjects translated the other subjects' responses from Fore, to Pidgin and to English. The acculturated subjects were able to choose from a list of terms a particular word to describe the photograph. The less acculturated subjects seemed unable to do this, perhaps because of the language barrier, so we instead obtained stories which described what had been happening that lead up to and/or followed the expression shown in the photograph. In another study, we were able to obtain, with the aid of a linguist, the South Fore words for different affects, and all subjects were able to label the photographs in their own language. In another study we had subjects pose affects, described in their own language, and we then showed these New Guinea photographs to other South Fore observers, who decoded the affect shown. Finally, we took cinema of the posing of affect and were analyzing the particular muscles which are involved in each pose utilizing our facial coding procedure, FAST.

The same decoding of the same facial behaviors was found across three literate cultures (U.S., Brazil, and Japan), for happy, anger, fear, surprise, sadness and for a single category combining both disgust and contempt (Ekman, Sorenson and Friesen, 1969). Since that time we have obtained the same results in Chile and Argentina. The literate culture results were compared with data from two preliterate cultures, the most acculturated persons of the South Fore of New Guinea, and the Sadong of Borneo. The level of agreement was generally lower, although evidence was obtained that the same facial stimuli are decoded as the same emotions for happiness, anger, and fear. In subsequent work, completed in the last few months, a new task procedure was employed which overcame some of the difficulties in translation and the novelty of task. In this second study of the South Fore of New Guinea, the results from both the encoding and decoding of emotion were the same as had been obtained in literate cultures. Thus we have obtained reasonable evidence for a pancultural element in affect displays—the association of particular facial muscles wiht particular emotions.

In the course of this work in New Guinea we have been intrigued with

the affect stories we obtained in response to our photographs. These stories can be analyzed to reveal the social contexts in which affect is displayed; many of the themes are similar across subjects, revealing the age, sex, usual evoking stimuli and behavioral consequences of particular affects. Information derived in this way would of course have to be compared with information gathered from field observations and from other informants, in order to determine the generality of these affect stories. It does appear, however, that the use of such stimuli to elicit information from an informant may prove to be a useful anthropological tool when the stimuli have been standardized within a culture.

Our last cross-cultural study of affect displays is utilizing a different method of study; we are focusing upon the elicitation of affect, or affect encoding, and within a traditional laboratory framework. This research is being conducted in collaboration with Lazarus, Averill and Opton,[13] utilizing their stress-inducing procedure. Subjects are shown one of a number of stress-inducing films, most of which are concerned with different forms of body mutilation, or one of a series of bland, mildly interesting films. In previous work, Lazarus' group verified, both in the U.S. and in Japan, that these are stressful stimuli, by analyzing verbal reports after the films, and self-ratings during and after the films, and by taking physiological measures of arousal.

In our study we take motion pictures of the subject's facial expressions and hand movements without his knowledge, while he watches a stress film and a neutral film. We have collected pilot data, utilizing very brief samples of nonverbal behavior both in Japan and in the U.S. Our analysis of these records involves both the application of FAST and the collection of Japanese and U.S. observers' interpretations of the affect shown in the Japanese and U.S. films. The FAST analysis is designed to determine whether the same muscles move in response to stress in both cultures, and whether the same display rules are exhibited in the two cultural groups. The observers' interpretations of the stimuli will reveal whether both cultures interpret similarly the stress reactions of members of their own and of another culture. It is too early to report results from this study, other than the impressions that the procedures have worked and information is obtainable from the experiments.

[13] University of California, Berkeley.

Regulators

The next category of nonverbal behavior is what we are calling REGULATORS. These are acts which maintain and regulate the back-and-forth nature of speaking and listening between two or more interactants. They tell the speaker to continue, repeat, elaborate, hurry up, become more interesting, less salacious, give the other a chance to talk, *etc.* They can tell the listener to pay special attention, to wait just a minute more, to talk, *etc.* Regulators, like illustrators, are related to the conversation, but while the illustrators are specifically interlaced with the moment-to-moment fluctuations in speech, the regulators are instead related to the conversational flow, the pacing of the exchange. The most common regulator is the head nod, the equivalent of the verbal *mm-hmm*; other regulators include eye contacts, slight movements forward, small postural shifts, eyebrow raises, and a whole host of other small nonverbal acts.

Most regulators, like the categories of batons and ideographic illustrators, carry no message content in themselves, but convey information necessary to the pacing of the conversation. They differ from batons and ideographic illustrators in that the regulators manage the exchange between the conversationalists, and do not accent a word or trace the development of a speech. But affect displays, and our last category of nonverbal behavior, adaptors, can also serve as regulators. Almost anything that one individual does and another observes has a regulative function, in that it can influence the communicative behavior of the other. But as Mahl (1968) has pointed out, simply the fact that a nonverbal behavior can influence another person does not mean that regulation is the sole, or even the primary, intent of the behavior. Thus, though a whole variety of behaviors can serve regulative functions, we reserve the label REGULATORS for those behaviors which do not fit into one of our other categories; that is, for behaviors which seem only to regulate.

Regulators seem to be on the periphery of awareness; a person can perform a regulative act without knowing that he does so, but if asked can easily recall and repeat it. Similarly, the other interactant seems quite sensitive to regulators if they are removed, but rarely aware of them when they are present. As a game we have suggested to friends that they try to inhibit all such regulators during a conversation. Most people find this very hard to do, but if they succeed in withholding regulators, their fellow interactant becomes quite disturbed, and communication stops. Regulators are not as intentional as either emblems or illustrators; people do not knowingly perform them in order to manage the commu-

nication system. They are usually not deliberate, but almost involuntary, highly over-learned habits.

We suspect that the frequency and type of regulators vary considerably with role, setting, and demographic characteristics of the person. We further suspect that the particular regulators and their frequency of occurrence are related to ethnicity, social class and culture, and that their misuse or misinterpretation is one of the more perplexing sources of misunderstanding between members of different groups. Regulators are taken for granted, and so typically occur out of explicit awareness that when someone does not emit the expected regulators or misinterprets our regulators, one is less likely to be able to isolate the source of the problem than if the miscommunication stemmed from emblematic or illustrator misunderstandings. People are likely to attribute regulator differences to rudeness or unmannerliness, rather than to a regulator system different from their own. We are not at all certain about the coding principles involved in regulators; some are obviously intrinsically coded, like shifts in posture to bring about greater or lesser attention, or more or less distance. But we suspect that there are many iconic and arbitrarily coded regulators.

Scheflen (1963, 1964, 1965) has been primarily concerned with what we are calling regulators. He has also written about the regulative aspect of the illustrators, affect displays, emblems, and our last category, adaptors. In our terms, regulators are always interactive-informative, but not often communicative. Scheflen has seemingly regarded any behavior which has interactive consequences as primarily functioning to regulate the relationship between interactants, and best comprehended from a communication or linguistic framework. Earlier we criticized this view, and while we recognize by our use of the term interactive that many other kinds of nonverbal behavior, emblems, affect displays, adaptors, can be interactive, we are reserving the use of the term regulator to describe only behaviors which do not readily fit into one of the other categories. Scheflen has made a major contribution to the understanding of such regulators in his distinction between three levels of regulators: points, positions, and presentations.

POINTS occur every few sentences; they are movements of the head, neck and/or eyes to mark the end of a structural unit, which is at a level higher than a single sentence. A point corresponds to the making of a point in a conversation. Different types of points may be used with explaining, interpreting, interrupting and listening. Earlier we described regulative acts primarily in terms of movements which, like Scheflen's points, pace

or manage the back-and-forth nature of the communication. Scheflen seems to imply also that points state something about the content of the last few sentences of speech, providing decoding clues to the observer.

A POSITION, a large unit composed of several points, corresponds to a point of view taken in a conversation. Scheflen concentrates on posture, but also mentions how spatial distance between interactants can serve as a position.

A PRESENTATION is the totality of positions within an interaction; it is primarily composed of body movements which remove the person from the scene of interaction, at least temporarily. Scheflen discusses how overall posture and distance defines the inclusiveness of an interaction, in this sense defining the intimacy of the conversation. Body orientation, whether vis-à-vis or in parallel, defines whether the interaction is one of exchange of information or feeling (conversing, arguing, courting) or is one where the members are focused on a third party or object. Similarity in posture between two interactants, or what Scheflen calls congruence, is related to similarity in what is being said by both persons, or similarity in their perceived status. Scheflen would agree with our assumption that all of these regulators are culture-specific and vary within a culture with the demographic characteristics of the person. We are not conducting any research on regulators.

Adaptors

The last category of nonverbal behavior is the most difficult to describe, and involves the most speculation. We use the term ADAPTORS because we believe these movements were first learned as part of adaptive efforts to satisfy self or bodily needs, or to perform bodily actions, or to manage emotions, or to develop or maintain prototypic interpersonal contacts, or to learn instrumental activities. Thus we distinguish and will separately discuss self-adaptors, alter-adaptors, and object-adaptors.

The confusing aspect of these adaptors is that while they were first learned (usually in childhood) as part of a total adaptive pattern where the goal of the activity was obvious, when these actions are emitted by the adult, particularly during social conversation, only a fragment of the original adaptive behavior is seen. These fragments or reductions of previously learned adaptive acts are maintained by habit. When originally learned the adaptor was associated with certain drives, with certain felt emotions, with expectancies, with types of interpersonal interaction, or in a given setting. When the adaptor appears in the adult it is because something in the current environment triggers this habit; something has

occurred currently which is relevant to the drive, emotion, relationship or setting originally associated with the learning of the adaptive pattern. But the original total adaptive activity is rarely carried through to completion; and when seen without knowledge of the origin of the activity, it may appear as random or noisy behavior. By this reasoning, adaptors when emitted by the adult are habitual, not intended to transmit a message, and usually without awareness.

This view of adaptors is basically similar to Darwin's explanation of certain body movements and facial expressions, except that we are postulating that the evolutionary development is ontogenetic rather than phylogenetic. Darwin hypothesized that such movements originally had serviceable functions, relevant to the survival of the organism, and that they were, through selection, preserved and maintained over the course of evolution, although in man they are no longer related to their original function. We assume that these adaptors are learned anew by each person early in life, and that they evolve over the course of his development with gradual modification and reduction of the total adaptive pattern so that by adulthood, and particularly in social conversation, only a fragment of the earlier learned adaptor may be seen, and not necessarily in obvious relationship to the original purpose served by the movement.

SELF-ADAPTORS are learned around the mastery or management of a variety of problems or needs. Some self-adaptors are learned in order to facilitate or block sensory input through hearing, seeing, smelling, tasting or touching. Some self-adaptors are learned for the proper performance of ingestive or excretive functions. Others are learned for the safe performance of autoerotic activity (those regarding sexual relations with others we will consider as alter-adaptors). Self-adaptors are also learned to properly groom, cleanse, or modify the attractiveness of the face and body. And, some self-adaptors are first learned to facilitate or block sound-making and speech.

Most self-adaptors are taught by the child-training practices of the parent and shaped by socialization processes. The grooming self-adaptors are re-learned during adolescence when there is a repeated, intensified focus upon appearance and changes in appearance. Each of these self-adaptors can involve learning to use the body or a facial feature in a specific way, OR learning to use the hands in relation to the face or body. When first learned, these adaptors were associated with drive states, with particular felt emotions or emotion blends, with interpersonal events, and with particular settings. When these adaptors are repeated later in adult life, it can EITHER be in order to perform the relevant adap-

tive activity, OR because some aspect of the current situation triggers the adaptive habit. It is the latter case which most often accounts for the adaptors shown by the adult in conversation. Only a fragment or a reduced version of the adaptor appears, probably because of later learned inhibitions about performing these activities in public places.

With high levels of emotional arousal, in more private places, during the most intimate relationships, or when there is personality disorganization, a fuller version of the self-adaptor may be manifest.

These self-adaptors are usually performed with little awareness, and no intention to communicate. The grooming self-adaptors may be the major exception, although people pretend that they do not know when they are grooming in public, particularly when they attend to body orifices; this may be a pretense to cover the behavior rather than actual lack of awareness. Self-adaptors have no intrinsic relationship to speech; but they may be triggered by, or related to, the motives, or affects, which are being verbalized. Generally self-adaptors receive little external feedback; other people don't directly comment on them, and rarely wish to be caught looking at them. It was only our parents who commented on the improper performance of self-adaptors in public places. We are not necessarily mannerly, avoiding the performance of such behaviors, but we are polite observers. If we notice someone engaged in a self-adaptor, we will look away, and pretend it is not occurring. Rudeness resides just as much in the person who continues to observe a self-adaptor as in the person who engages in the behavior.

An example of a self-adaptor seen in adult conversation would be the wiping of the lips with the tongue or, in particular, with the hand. Although chapped lips or a dryness of the mouth may be relevant to the appearance of this movement, if it also includes a clicking or slapping of the tongue against the roof of the mouth it may be a self-adaptor originally learned to clear away debris from the mouth and lips after a satisfying meal. It may appear in adult conversation when nothing is being eaten, but when the person feels satisfied over something he has just figuratively swallowed or devoured. The hands may wipe around the corners of the eye, a self-adaptor which would remove tears; but it may be shown by the adult with no tears present when grief or sadness is felt or anticipated. A person may squeeze his legs, exerting pressure in the genital region, a self-adaptor originally learned as a covert prelude to masturbation; if this action was originally associated with the sudden termination of parental affection, it may reappear when the adult experiences rejection by authority figures.

The interpretation or decoding of these self-adaptors is difficult, often speculative and uncertain. We presume that if they were not decayed by time and fragmented by inhibitions, but were instead totally performed, their meaning would be obvious. But this is seldom the case, except with children, and imagining the childhood origin of the movement can be an area for quite varied and wild inferences. Yet our own findings show that at least some of these self-adaptors convey very specific attitudinal information to observers, with high consensus among observers; and that when an individual who engages in a self-adaptor is asked about it, if he is able to provide information about the action, it will often refer backwards in time to childhood occurrences.

Probably the easiest self-adaptors to decode are ones in which the hands touch the face. Such hand-to-face adaptors are a particularly rich source of information, partially because the face contains differentiated organs, and where the hand goes and what it does to a facial feature can provide information. But there is another reason for the importance of hand-to-face adaptors. The face symbolizes, at least for people in the U.S., the self; people identify with their faces; if asked for a representation of another person they will show a picture of the face, not of the hands or legs; and when in scientific experiments we wish to preserve anonymity, we do so by disguising the face, although people can be recognized from the body as well. When a person touches his face, the action can be conceived in terms of what the person has had done to him, what he wants done to him, or what he is doing to himself. Activities such as picking or scratching may be forms of attacking the self; holding may be giving nurture or support; rubbing or massaging may be caress or reassurance. Since location of the activity is important also, and locations are generally relevant to the sensory input and output already discussed, this notion of the face as self overlaps with our earlier commentary.

Yet, parts of the face may represent self-properties which are not relevant to the organs involved in sensation, ingestion, or speech. The forehead and back of the scalp may be an example, since they often connote thinking activities. The head may be scratched almost as an emblem of ongoing thinking or wondering, the forehead wiped almost as an emblem of difficult or tiring thought. Another reason for the importance of hand-to-face adaptors, and for their comparative ease in decoding, is that such hand movements may follow and be interpreted in terms of how they handle a facial affect display.

Self-directed adaptors have rich psychological meaning, more personal

in nature than is typical of regulators, illustrators and most emblems. Part of this personal meaning is shared among at least a group of persons, part is quite idiosyncratic to a given individual. We believe that many self-adaptors are informative, providing similar information across persons from the same social class or from sub-cultures with similar child-rearing practices. A large part of the idiosyncratic meaning is related to the conditions which trigger the emission of a self-adaptor — the particular motive, emotion, interpersonal event or expectancy which might have been associated with the particular self-adaptor; and this, of course, will vary considerably with the life history of each person. For example, the eye-cover act in which the hand covers but does not dig, scratch or rub the eye has a shared meaning relating to preventing sensory input or avoiding being seen, and is relevant to shame. More generally the act may have the meaning of support or help, needed or received, if the head leans down upon the hand which is covering the eye. But the conditions which trigger this act, which determine when it is shown, will vary for each individual; it may be a habit associated with crying, with intense anger, with excitement, or it may more particularly be associated with such an emotion in regard to a particular type of other person, a maternal surrogate, a sibling surrogate, *etc.* The most idiosyncratic meaning is thus related to the associational links between the adaptor and other events, feelings, and drives; these links reach back in time, were usually formed in childhood, vary with the life history of each person and are relevant to understanding why an adaptor is shown at a given point in a conversation.[14]

The ALTER-DIRECTED ADAPTORS originate in movements learned in early, perhaps prototypic, interpersonal contacts. They include movements necessary to giving to or taking from another person; movements relevant to attacking or protecting oneself from attack; movements

[14] Freedman and Hoffman's (1967) category of body-focused movements is quite similar to our description of self-adaptors. They limited their initial work to actions in which the hands touch the body, and have considered these movements as relevant only to sensory experience, but assume that such actions are relevant to need gratifying ideas. We would expect that they would concur in our description of self-adaptors which are relevant to ingestion, excretion, autoerotic activity, and grooming, in addition to the sensory self-adaptors. Rosenfeld's (1966) category of self-manipulation is described as actions in which one part of the body contacts another; his examples are scratching, rubbing, or tapping. Rosenfeld interprets these movements as indications of discomfort; while we would agree that this is true for some self-adaptors, other self-adaptors, particularly those which involve attacking movements directed against the self, and certain restless-looking movements (which we consider as alter-adaptors) can be related to other need states, or to emotions which are in no way necessarily discomforting.

necessary to establishing affection and intimacy, or withdrawal and flight; movements relevant to establishing sexual contact, such as invitations, flirtations, and courtship; and movements necessary to establishing sexual relationship (the last may be learned later). As with the self-adaptors, alter-adaptors are not necessarily shown in a total or complete fashion when they occur during adult conversations, although they may be in less public settings or in more pressured or intimate conversations. Instead, fragments or reductions of these movements occur, as habits linked to particular types of interpersonal events, expectancies, emotions.

Many of these alter-adaptors involve the use of the hands, often in space, but sometimes in contact with the body. Alter-adaptors which involve hand-in-space movements may be difficult to distinguish from illustrators, and actually may be completely redundant with the kinetographic illustrators if they actually illustrate in action what is being said verbally. Hand movements which touch the body must be distinguished from self-adaptors, although the two may be contained in a single movement, the distinction being thus artificial in that instance; *e.g.*, a protective movement which holds or conceals part of the body from attack, or a movement which stimulates part of the body, may at the same time draw attention and be an invitation for or rejection of contact with the other. Total postural movements, as well as changes in spatial distance, are alter-adaptors, although Scheflen would consider them presentations, which we previously described as relevant to regulators. An alter-adaptor has a regulative aspect, of course, if it is perceived; but we have attempted to reserve the term "regulator" for those movements which exclusively or primarily serve to regulate the back-and-forth conversational flow.

Leg movements can often be alter-adaptors, showing residues of kicking aggression, sexual invitation, or flight. Many of the restless movements of the hands and feet which have typically been considered indicators of anxiety we believe to be residues of alter-adaptors necessary for flight from the interaction.

While the alter-adaptors, like the self-adaptors, can be engaged in voluntarily, with full awareness, and perhaps might even be used intentionally to communicate, more often they occur with limited or no awareness, and with no intention to communicate. They may receive external feedback and generally people will be more willing to comment on an alter-adaptor than on a self-adaptor.

A fascinating example of an alter-adaptor was suggested by Washburn (1967), from his studies of baboon behavior. He had noted that during adult threat behavior, the baboon will often turn his head to the side;

and this action was unusual in that unlike the other behaviors found during threat, it seemed to have no functional value. A clue came from examining the situation when the baboon first learned to fight and attack. At those times, the baboon would attack another member of the group, but since he was not fully developed, he would only do so in the presence of his mother. Looking laterally was thus learned as a necessary part of aggressive behavior, to check whether mother was there. It is maintained by habit, although it no longer serves such a purpose in the adult threat behavior.

A last form of adaptor is the OBJECT-ADAPTOR, a movement originally learned in the performance of some instrumental task: driving a car, smoking, wielding a tool, *etc.* This movement will be repeated, again only in part, during conversations if the emotional or attitudinal component associated with the adaptor is triggered. The object-adaptors differ from the self- and alter-adaptors in that many are learned later in life. Object-adaptors may often be within awareness, which was not so for either self- or alter-adaptors, and some may be intended to communicate. Generally there are fewer social taboos about the performance of object-adaptors than self-adaptors, or even alter-adaptors.

All three categories of adaptors — self-, alter- and object- — are either iconically coded or intrinsically coded; they are not arbitrarily coded. If the movement is only a residue or a fragment of the original adaptive behavior, it approaches being iconic, but could be considered intrinsically coded if the residue has not been altered. If the movement reproduces all of the essential elements for the movement to have an adaptive consequence, we would consider it intrinsically coded adaptive behavior. It seems likely, however, that with time, fragmentation will occur, and that with fragmentation, alteration will also occur. The coding of adaptors is primarily kinetic. That is, the movement executes part of an action or performance, and meaning either is associated iconically with that performance or is that performance. By implication, there should be considerable variation in adaptors across cultures. Those adaptors which are common across cultures will chiefly be those which are most relevant to sensations and to the body functions of ingestion, excretion and reproduction, since the human anatomy necessitates some commonality in the performance of these activities.

The adaptors will usually have a rich level of idiosyncratic meaning as well as shared meaning, particularly the self-adaptors. This idiosyncratic meaning will generally refer to the stimuli which trigger the self-adaptor, the history of how the adaptor was learned and parental reactions to the

movement, and associated ideational material. Most adaptors are emitted with little awareness and no intention to transmit a message; only in exceptional circumstances or with exceptional senders would we expect to find adaptors communicative. But, their shared level of decoded meaning would suggest that many adaptors are informative. Some may also be interactive, changing the behavior of the other interactant, but this will not be as frequent as for other categories of nonverbal behavior, such as emblems or illustrators, as there is a selective tendency to not attend to adaptors, particularly the self-adaptors. The self-adaptors are probably what Mahl had in mind with his term autistic actions, although, as we described much earlier, we believe his ideas are best interpreted as describing a layer of idiosyncratic meaning which can be found with any action, rather than as descriptive of an exclusive category of behavior.

RESEARCH IN PROGRESS: Our past work (Ekman and Friesen, 1968, 1969) has examined the meaning of self- and alter-adaptors in psychiatric patients, and noted changes in the frequency of these movements as the patients change from an acute disturbance to a remission of symptoms. In one of our present studies of adaptors we are examining this type of nonverbal behavior as a major form of leakage of withheld information during deceptive interactions. We have described elsewhere why this form of nonverbal behavior escapes efforts to conceal or withhold information, and is rarely employed as part of a dissimulation.

In another study of self-adaptors, we are comparing the frequency of such movements and their coincidence with linguistic phenomena, with facial affect displays, with interocular contact, and with another class of nonverbal behavior, the illustrators. This study employs our films of psychiatric patients; it was described earlier in the section on illustrators, (p. 74).

We are also looking at self-adaptors in our Japanese-U.S. study of nonverbal reactions to stress films (see affect displays, p. 77). While some of the behaviors are clearly affect displays, a number are self-adaptor movements in response to stress, and we are determining the differences in the repertoire of self-adaptors shown by both Japanese and Americans.

A last study of adaptors was quite limited in scope, but had the virtue of being conducted in New Guinea, where the subjects would have little opportunity to learn such movements from exposure to the style of body movements in Western culture. We investigated the body movements associated with embarrassment, flirtation and shame. Two methods of study were employed to investigate encoded and decoded meaning.

Photographs of adaptors were made from cinema previously taken of the South Fore, and these photographs were shown to South Fore informants who were asked to interpret the meaning of the movement — agreement among informants would show that the movement was informative, that is they had shared decoded meaning. *Ad lib* cinema was also taken of spontaneous instances of embarrassment, flirtation and shame, to study particular movements encoded in such circumstances. The class of movements studied included self-adaptors (hiding the face, covering the eyes, or mouth) and alter-adaptors (flirtatious display and concealment of body parts to another person). Both the encoding and decoding of many of these movements were found to be the same as it occurs in the U.S. These results are in agreement with a report by Eibl-Eibesfeldt which appeared in the popular press on similar flirtation movements in different cultures.

SUMMARY

In the table we have summarized some of the discussions of each of the five categories of nonverbal behavior in terms of origins, coding and usage. Limitations of space mean that the information given is brief and many of the qualifications have been left out; some points are overstated, and others which are important are ignored. The table should, however, facilitate comparisons between categories on a particular topic, such as awareness. The table should also reveal that different aspects of usage, and sometimes of coding or origin may be more salient in defining one category than another. The table should also show the gaps in our present thinking.

Let us emphasize that this categorical scheme is not complete or final. There are nonverbal behaviors which probably don't fit very well into any of the five categories — for example, an enduring postural feature such as holding the head in a forward, angular position. The five categories are not exclusive; the same nonverbal act can and sometimes must be placed within multiple categories. The emblems can include affect displays or adaptors which have been isolated by the culture and given explicitly defined meaning. The illustrators can include adaptors as kinetographic illustrators, and often will. Illustrators may also use an emblem which is kinetographic or pictographic to illustrate what is being said verbally. Affect displays which repeat or augment the affect being described verbally could be considered to illustrate the words, but we

have not called such affect displays illustrators. Almost any of the categories can have a regulative influence, if observed, but we have tried to label as regulators only those acts which are not emblems, adaptors, affect displays or illustrators.

We wish to emphasize that many of the ideas put forward here are incomplete. We regard this paper as a report of progress rather than a final statement. Most troublesome, perhaps, is our treatment of coding. We are not happy with the term 'intrinsically coded behavior'. While the distinction between arbitrary and iconic codes seems clear to us, and the distinction between iconic codes and what we have called intrinsically coded behavior is important, we are dissatisfied with our present account of the differences between iconic and intrinsically coded behavior. A further problem is the distortion resulting from our treatment of nonverbal behavior as isolated units; we have attempted to map the elements of nonverbal behavior and have yet to specify sequential interrelationships either for the flow of an individual's behavior or for the interaction of two or more persons.

We think that the answers to many of the questions which were outlined at the beginning of this discussion when reviewing our past research are provided by the reasoning involved in this categorization of nonverbal behavior, although it would take another paper of this length to detail this. While this account is not supported by systematic evidence, and rests on examples, logical argument, and reference to isolated bits of data, we believe that it contains many hypotheses susceptible to test and we have described how our own research in progress is making use of this framework.

Perhaps the main value of this scheme is that it may make it more difficult to conceive of nonverbal behavior as a simple unified phenomenon, best explained by a single model of behavior, whether that model be neurophysiological, linguistic or psychoanalytic. If we have succeeded, then you should also be persuaded that even a dichotomization of nonverbal behavior does not do justice to the complexities and variety of body movements and facial expressions found in this domain.

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	EMBLEMS	ILLUSTRATORS: Batons, Ideographs, Deictic, Spatial, Kinetographs, Pictographs	REGULATORS	AFFECT DISPLAYS	ADAPTORS: Self-, Alter- & Object-
USAGE: external conditions	Most frequent when verbal channel blocked; also related to demographic variables	May vary with enthusiasm or excitement; varies with setting and demographic variables	Vary with and partially define roles, orientation of interaction; vary with demographic variables	Culture, social class & family define affects appropriate for certain settings; display rules incorporate social norms about affect displays	Self adaptors inhibited by conversations, but still prevalent. Adaptors triggered by a feeling, attitude
relation to words	high agreement about verbal definition; can be replaced by word or phrase	directly tied to speech, illustrate message content, or rhythmically accent or trace ideas	maintain and regulate back-and-forth conversational flow, not tied to specifics of speech	can repeat, augment, contradict or be unrelated to verbal affective statement	can be triggered by verbal behavior in present situation which is associated with conditions when adaptive habit first learned
awareness	usually as aware as choice of words	within awareness, not as explicit as emblems	periphery of awareness; difficult to inhibit	often highly aware of affect once displayed, but can occur without any awareness	typically not aware of adaptors, although tend to conceal and inhibit
intention to communicate	usually intended to communicate	intentional to help communicate, not as deliberate as emblems	over-learned habits that are almost involuntary	often not intended to communicate but can be; subject to inhibition; can be dissimulated	rarely intended to communicate
receiver feedback	visual attention and direct comment.	visual attention and some direct comment or response	other interactant very responsive to, but rarely directly comments on	greater receiver attention; can or cannot be direct comment on	other interactant rarely comments on, and politeness implies lack of attention to

type of information	more shared than idiosyncratic. typically communicative, informative & interactive	more shared than idiosyncratic; informative, often interactive & communicative	more shared than idiosyncratic; by definition interactive, usually informative, not often communicative	both shared & idiosyncratic; informative, can be interactive, communicative only in simulations	both shared & idiosyncratic; often informative, not usually interactive, rarely communicative
CODING:	Some arbitrarily; some iconic (pictorial, kinetic, spatial) usually not intrinsic. Iconic can be decoded, at least in part, by a foreign culture.	Batons & ideographs: rhythmic/iconic: pictographs: pictorial/iconic; deictics: pointing/intrinsic; spatial & kinetographs: iconic or intrinsic. Vary with culture, social class, etc.	Arbitrary, iconic or intrinsic; we have not clearly specified. Vary cross-culturally and source of misunderstanding which is often not recognized.	Some intrinsic, may be iconic as result of display rules; perhaps some arbitrary. Some evokers, blends, display rules & consequences vary within and between cultures.	Intrinsic/kinetic or tend to be iconic when fragmented by time. Some similar, some differ across cultures.
ORIGINS:	Culture specific learning; specifically taught as verbal language taught.	Socially learned by imitation; vary with ethnicity; cultural and social class differences in type and frequency	Learned but we have not specified when.	Relationship between facial musculature & affect and some of the evokers neurophysiologically programmed. Some evokers, blends, display rules, consequences socially learned	Habits first learned to deal with sensation, excretion, ingestion, grooming, affect; or to maintain prototypic interpersonal relationships; or to perform instrumental task.
OVERLAP:	Can be based on affect display, or adaptors.	Kinetographs can include an adaptor.	All other categories can serve as regulators; but we call acts regulators only if they are not part of another category.		

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