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## EMOTIONAL AND CONVERSATIONAL NONVERBAL SIGNALS

In this paper I revise and expand formulations which distinguished among a number of different types of body movements and facial expressions (Ekman and Friesen 1969). Some of the terminology and most of the conceptual distinctions have been preserved, but refinements and expansions have benefited from empirical findings and theoretical developments. The crucial issue remains to distinguish among quite different activities, which are shown in facial and/or bodily movement, but which have quite different functions, origins and coding.

### 1. EMBLEMS

Emblems are the only true 'body language', in that these movements have a set of precise meanings, which are understood by all members of a culture or subculture. The term 'emblem' I borrowed from Efron (1968), the pioneer in studying cultural differences in body movements. Emblems are socially learned and thus, like language, culturally variable. A message may have an emblem in one culture, and no emblem in another cultural setting. Or the same movement pattern may have quite different meanings in different cultural settings.

There are, however, multicultural emblems, which may occur for quite different reasons. First, and most obvious, some emblems from one culture may be adopted by members of another culture who have observed them. The 'finger' emblem in common use in North America is well known by inter-cultural contact, and sometimes used in other cultures. Such contact may be direct, or through mass media. Darwin (1998) proposed quite a different mechanism to explain his observation that the shrug, which denotes helplessness, while not universal, is quite widespread. It is a movement, he said, which is antithetical to the movement patterns used to denote the capability to attack. If a culture were to develop an emblem for helplessness, then, from Darwin's reasoning, it would likely be this antithetical movement. Eibl-Eibesfeldt (1970) has claimed that the eyebrow flash to denote a greeting is universal. I disagree; there are some

cultures where it is not in use (e.g. the United States). But it is quite widespread, appearing in many cultures. I explain its frequent occurrence as due to the selection of one element — raising of the eyebrows — of the full display of surprise. If a culture develops an emblem for an initial greeting, and uses the face in addition or in place of the hands, then it is likely that part of a surprise display would be used.

Emblems may repeat a word as it is said, replace a word in a flow of speech, provide a separate comment related to the words spoken, or occur as the sole reply. Emblems may be iconic, in which the movements look in some way like the message they are signifying, or arbitrarily coded. Emblems most often involve the hands, but some are performed using the shoulders, changes in head positioning, or facial movements.

Emblems are typically performed in a 'presentation position': directly in front of the performer, between the waist and the head. They usually have a staccato or punctuated appearance, with a sudden beginning and ending. The performer is as aware of using an emblem as he or she is of the words being spoken.

An exception is the 'emblematic fragment'. These are the gestural equivalents of slips of the tongue. They occur outside of the presentation position, and only part of the full emblem is performed, in a non-punctuated fashion. The onset and offset may be gradual rather than abrupt. And the performer usually is unaware of making the movements. Like verbal slips, emblematic fragments may reveal repressed information, or deliberately suppressed information (Ekman 2001).

Emblems can be performed with hand, head, or facial movements. In those cultures we have studied, the majority of the emblems are performed with hand movements. Emblems are of special use when people can not rely on words (too much noise, distance, etc.). When used with speech they can either add a second layer to the conversation, or emphasize and make the spoken words more interesting.

Elsewhere (Ekman and Friesen 1972; Johnson *et al.* 1975) we have described the method we have used to survey the repertoire of emblems in different cultural settings. This method has been used in the United States (Johnson *et al.* 1975), Iran (Trupin unpublished dissertation 1976), Israel (Broide unpublished masters thesis 1977) and Japan and Papua New Guinea (the last two are unpublished findings from my own research). These cultures differed in the sheer number of emblems (67 in the U.S. to over 200 in Israel), and in the types of messages for which there is an emblem.

It is my impression that it is easy to learn foreign emblems, easier than it is to learn foreign words. But I have done no research to support that casual observation.

Although emblems resemble spoken language, they do not appear to have syntax. Sometimes a person will use a string of emblems, in which the sequence denotes the set of messages in the intended order, but such sequences are not

common, and no other more complex relationship among emblems themselves has been evident.

## 2. ILLUSTRATORS

We (Ekman and Friesen 1969) coined this term to refer to movements that illustrate speech. They are intimately related to the speaker's speech on a moment-to-moment basis, usually augmenting what is said, but sometimes contradicting it. Although Efron did not use this term, he described five different types of illustrators, and I preserve his terminology for naming each type, and add two more to his list (6 and 7 below):

1. Batons time out, accent or emphasize a particular word or phrase, 'beat out the tempo of mental locomotion'.
2. Ideographs sketch a path or directing of thought, 'tracing the itinerary of a logical journey'.
3. Deictic movements point to a present object.
4. Kinetographs depict a bodily action.
5. Spatial movements depict a spatial relationship.
6. Pictographs draw a picture of their referent.
7. Rhythmic movements depict the rhythm or pacing of an event.

These illustrators are typically performed with the hands, although the head may be involved, or even the feet. I made these distinctions (Ekman and Friesen 1969; Ekman and Friesen 1972) when I had been studying bodily movement. After another decade of measuring facial muscular movement, I noticed that certain facial movements can be used as batons, and that this category can be subdivided (Ekman 1979). There are facial (as well as bodily) batons that accent a word. These baton-accenters typically co-occur with an increase in loudness. There are also baton-underliners that emphasize a phrase. We have found it is nearly impossible to deliberately disconnect the change in loudness and the baton-accent. We have not found anyone who, within a phrase, can deliberately increase loudness on one word and place the baton-accent on another word, without unintentionally increasing the loudness of the baton-accented word.

Nearly all of the facial batons involve either brow raising or brow lowering, although it is possible to use nearly any facial movement for this purpose. Brow lowering and brow raising are highly visible facial movements, and movements

that we have found are very easy to perform, even by young children (Ekman *et al.* 1980b). Although some individuals utilize raising more than lowering, or vice versa, for most people the facial movement deployed as a baton-accent is related to the content of the word being emphasized. With words such as 'easy, light, good, etc.' a brow raise is used, while brow lower is used to emphasize words such as 'difficult, dark, bad', etc. If a person tries to use brow lower to emphasize a word such as 'light' or 'good', the voice sounds strange, and the performance seems rough. I offered two non-exclusive explanations for the association of brow lower and brow raise with negative and positive words:

[B]row lowering which is employed in a variety of negative emotions (fear, sadness, distress, anger) should carry an implication of something negative, whereas brow raising would be more likely to suggest surprise or interest. Alternatively, the role played by these two actions in conversational signals may be selected on the basis of their current biological function: brow raise increasing and brow lowering decreasing visual input. Their role in conversational signals would thus be viewed as analogues to their biological adaptive value. Either possibility could be true (Ekman 1979, p. 201).

In unpublished research with Linda Camras (described in more detail in Ekman 1979) we found that brow lowering and raising is also used in quite different ways in statements which ask a question. If the speaker is going to use a brow movement at all, then it is likely that the brows will be raised if the speaker knows the answer to the question, and lowered if the speaker does not know the answer to the question be asked. One of the editors of this volume (L.M.) noted how this contrasts with the use of brows in signing. (In many sign languages, American Sign Language amongst them, raised brows are part of the signal for yes-no questions; lowered brows are part of the signal for wh-questions. However, raised brows are also part of the signal for rhetorical questions, which is in keeping with our findings for non-signers.) The tone of voice and pitch level will also differ with these two types of questions.

Illustrators are socially learned, presumably when language itself is learned. Efron dramatically demonstrated that immigrant Lithuanian Jews and Sicilians use very different types of illustrators, but these differences were not preserved in their offspring who assimilated into the mainstream New York City culture.

Although individuals differ in both the type and frequency with which they use illustrators, there are also individual variations. Illustrators increase with the speaker's involvement with the process of speaking, and with both positive and negative affect, and decrease with lowered involvement, boredom or fatigue. A decrease in illustrators also occurs when a person is carefully weighing each word before it is spoken. Although this may occur with caution or ambivalence, it also has proven to be a useful indicator of deception (Ekman *et al.* 1976). We have also found that illustrators increased when depressed patients recovered (Ekman and Friesen 1974).

Illustrators help explain what is being said verbally. They also can serve a self-priming function, helping the speaker get going or get through a difficult to explain thought. Illustrators command the listener's attention, and can help hold the floor for the speaker. We have found (Ekman *et al.* 1980a) that the use of illustrators impresses others as a sign of sociability and friendliness. I expect students would retain more information from a lecturer who uses illustrators, but I don't know of research to support that speculation.

### 3. MANIPULATORS

Originally we (Ekman and Friesen 1969) called these movements 'adapters', but I now prefer the more descriptive term 'manipulators'. In these movements one part of the body or face manipulates in some fashion – stroking, pressing, scratching, licking, biting, sucking, etc. – another part of the body or face. An object may also be the object of this attention, or used to perform the manipulation.

The frequency with which these movements occur is amazing, once one begins to notice them. Not just in private, but also in public, people usually touch themselves. One of my favorite classroom exercises is to ask the students to put everything down and stop touching themselves. It is hard for them to maintain this for even five minutes!

While some of these manipulators appear to accomplish grooming or cleaning, many of them seem to have no instrumental goal. Perhaps reassurance or comforting is a possibility, but many manipulators seem simply to reflect a nervousness, or habitual activity. Manipulators appear to be performed on the edge of awareness, in that a person if asked what he or she just did can usually describe the activity, but was not focusing on it as it occurred. Our observations suggest that most people disattend when another person engages in a particularly noticeable, presumably taboo, manipulator such as ear or nose cleaning. The disattending, I believe, also occurs with little awareness.

Individuals differ not only in their favored manipulator but also in the frequency with which they show these behaviors. They often increase with increasing discomfort, although some people show a decrease, and freeze into a tense restrained position when uncomfortable. And, manipulators may increase when people are totally comfortable, with friends, not worrying at all about appearances.

Our research (Ekman *et al.* 1980a; Ekman 1992a) found that others distrust people who show many manipulators; they are commonly interpreted as signs someone is lying. But, in fact, they are not a reliable sign of lying for most people.

#### 4. REGULATORS

We coined this term to draw attention

...to actions 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 tell the listener to pay special attention, to wait just a minute more, to talk, etc. (Ekman and Friesen 1969, p. 82)

While illustrators and emblems (and emotional expressions which I describe next) influence and may also be said to regulate the flow of conversation, I use the term 'regulator' to refer to when those or other actions are primarily functioning for just this purpose alone. Schefflen (1963, 1964, 1965) wrote about regulators, although that is not what he called them, and made many important contributions such as the role of postural shifts and mirroring. I have not focused much on regulators, and my observations are limited.

'Listener responses' were first described, I believe, by Dittman (1972). He focused on a variety of movements that lead the speaker to continue with what he is saying. These may include head nods, agreement-smiles, forward leans, brow raises in exclamation, and so forth. I called these 'agreement listener responses' to distinguish them from another set, 'calls for information' (Ekman 1979). The listener may lower the brow to signal a lack of understanding or puzzlement with what has been said. A brow raise may indicate disbelief, or that what has been said is incredible.

I described earlier but did not before name, 'floor holders', responses made by the speaker to prevent interruptions. I have seen this done by holding a hand out, like a traffic policeman, to prevent the listener from entering the conversation just yet. 'Turn seekers' are the listener's attempts to gain the floor, which may involve such diverse actions as leaning forward, almost rising from a chair, beginning to make the lip movements for speaking a word, etc.

#### 5. EMOTIONAL EXPRESSIONS

We originally used the term 'affect display', but each of those words carries surplus meaning that I would rather avoid. 'Affect' implies more than emotion; it encompasses a broader range of phenomena, such as moods. And 'display' is no better a word than 'expression' which I prefer in deference to Darwin. Also the use of the term 'expression' serves to raise the issue, which has bothered many ethologists, of whether these movements on the face are communicative actions or expressions. This is a false and misleading dichotomy. I maintain (Ekman 1997) that emotional expressions are involuntary signals which provide important information to others. These expressions have been selected and refined over the course of evolution for their role in social communication. As involuntary signals they may occur in response to anything that calls forth an

emotion, which may include non-personal events such as a beautiful sunset or thunder, and may be manifest when the individual is alone. The presence of others enhances expressions, as emotions themselves evolved primarily to deal with fundamental life tasks involving child care, mating, dealing with predators and rivals, etc. (Ekman 1992).

It is reasonable to call these signals 'expressions' because they are part of an emotion, they are a sign that an emotion is occurring. I have maintained that a hallmark of an emotion is that it has a signal, in face and/or voice and/or bodily movement. There is no involuntary signal which informs conspecifics what the person is thinking; thoughts are private, but emotions are not. Elsewhere (Ekman 1992) I have described nine characteristics which distinguish emotions from reflexes, moods, affective traits and affective disorders. I think it is a reasonable assumption that any state which shares the characteristics I describe for an emotion will have a signal. But that is only an assumption, not sacred theory, waiting to be challenged by evidence of a secret emotion which has all the other characteristics of the signal emotions.

We do not know much about what people actually derive when they see or hear an expression in the course of a conversation, competing with other sources of information, and embedded in one or another context of previous and simultaneous behaviors, and various expectations. From the research that has been done by removing an expression from context and asking people who are not involved in the situation to make judgments, we know that emotional expressions *can* provide information about the antecedent events, and about single emotion terms. I have proposed that emotional expressions also may convey information about: likely next actions, likely thoughts and plans, the internal state of the expresser which may be in terms of a metaphor, or what the observer might be thinking it would be wise to do next (Ekman 1993).

While the emotional expressions are not learned, we do learn what we termed 'display rules', to manage expressions. These rules which are to some extent individually and culturally variable, specify who can show which emotion to whom and when. Individuals differ in their success in inhibiting, substituting, masking or magnifying their expressions.

My own evidence and the evidence of many others support Darwin's claim that these expressions are universal to our species, and some of them shared with other species. Social constructionists, cultural relativists, and those focused on the language of emotions still argue with this claim (see Ekman 1999 for my most recent review of the evidence and the challenges to that evidence).

Words are not emotions, but representations of emotion. The fact that a language does not have a word for an emotion does not mean the emotion does not exist for the users of that language, but that it has not been labeled with a single word. English speakers can enjoy the suffering of their enemies but they have no single term for it, while Germans have the word *schadenfreude*. Perhaps the mistaken belief that words are emotions, or the most important feature of an

emotion, arose because most of the cross cultural research (but not all, see Ekman 1972), asked people in different cultures to choose a single emotion word for each face they were shown. While this did produce very strong agreement across cultures, it was not perfect, for single words do not translate exactly from one language to another. Another technique, still involving words, was to use a story to convey a social context, and ask people to indicate which face fit which social context. Again, very high agreement was observed.

The face is one of the primary sites of emotional expressions; the voice is the other. I believe posture, the positioning of the head and body, is also recruited into the signal of some of the emotions. We (Ekman and Friesen 1978) developed a fine-grained measurement technique for comprehensively describing any facial movement in terms of the particular muscular actions produced. The Facial Action Coding System (FACS) can be used to describe any observed facial action, not just those which may be relevant to emotion. We have found even in highly emotional circumstances that most of the facial movements are not emotional signals, but facial illustrators, primarily batons. A few hundred people have learned FACS and are using it to study pain, infant development, sign language, psychopathology, and psychotherapy, as well as emotion (see Ekman and Rosenberg 1997 for a representative sample of those studies).

There is not just one but a family of facial expressions for each emotion. The family includes variations related to intensity, efforts to control the expression, and perhaps also the particular form of the emotion. Taking anger as an example, there is evidence about intensity variations, from annoyance to rage, and how to distinguish controlled from uncontrolled anger, but we do not know if there are different expressions for self-righteous anger as compared to indignant anger.

It is not certain how many universal expressions there are. The evidence from the judgment of facial expressions is strong for: anger, fear, disgust, contempt, surprise sadness/distress, and enjoyment. Keltner (1995) suggests there may also be a universal expression for embarrassment. The other emotions can be signaled by a face in an instant, a frozen movement, but embarrassment apparently requires the unfolding of a sequence of facial and bodily movements. I suspect there is also an expression for awe, but no one has described it. (The evidence from the study of the voice (e.g., Banse and Scherer 1996) has to date not identified any other emotions which have a unique cross-cultural signal).

I have suggested (Ekman 1992b) that there is an unhappiness group of emotions which shares a particular facial expression, and a happiness group which does so as well. Members of the unhappiness group are sadness, the more agitated version of sadness called distress, guilt, shame, discouragement, and disappointment. My claim is that their appearance on the face is not much different, with only minor variations for each of these related states. Perhaps the voice might provide separate signals for these presumed emotions, but research to determine this has not yet been done.



The happiness group includes sensory pleasure, pride in achievement, amusement, relief and contentment. My claim here is that these all share the same facial expression – some variation on the action of zygomatic major and the outer portion of orbicularis oculi (6+12 in FACS terms) – with only minor variations in the timing of the movements and their strength. Perhaps the voice may provide separate signals for each of these happiness emotions, for it certainly seems obvious that amusement doesn't sound like relief.

Before closing let me describe 'referential expressions', for these have been a source of confusion among those studying facial expression, and they are interesting in their own right. A referential expression is a facial movement that refers to an emotion that is not felt by the person showing it. The person is referring to the emotion, much as the person could with a word, showing the emotion but in a way that makes it clear that the person is not feeling it now.

The referential expression then must look like the emotional expression but differ from it for two reasons. First if it resembles the actual emotional expression the observer might fail to recognize that it is not being felt now, and perceive it as an actual emotional expression. The second reason why it must be transformed is to reduce the likelihood that the person making the referential expression will actually begin to experience an emotion. My research with Robert Levenson (Ekman *et al.* 1983; Levenson *et al.* 1990) found that deliberately making the facial movements associated with a universal expression generates the changes in the autonomic nervous system that occur when emotion generated in more typical ways. In subsequent research we (Ekman and Davidson 1993) found that deliberately making the facial configuration associated with enjoyment generated many of the changes in the central nervous system which occur when enjoyment occurs spontaneously.

The transformations of the actual emotional expression into a referential expression occur in both time and morphology. Typically the referential expression is either much briefer or much longer than the actual emotional expression, and it involves only one set of facial movements, not the complete array of facial movements associated with an emotional expression. Common examples are the horizontal stretching of the lips, typically performed very quickly, to refer to fear, and the raised upper lip, either brief or very long, to refer to disgust.

*A caveat:* only what I have written about emotional expressions and emblems is based on systematic research in non Western as well as Western cultures. What little research that so far exists on illustrators, manipulators, and regulators has been done exclusively in Western cultures.

## SUMMARY

I have offered a taxonomy of bodily and facial movement, taking account of communicative function, how the movement became part of the organism's

repertoire, and the relationship between the movement itself and what it signifies. This five-way classification – emblems, illustrators, manipulators, regulators and emotional expressions – is based on semiotic, ethological and psychological perspectives on nonverbal signals. Although largely based on my first writing on this topic (Ekman & Friesen 1969), I have been able here to expand and reformulate my views based on findings obtained in the last thirty years.

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