SELF-DECEPTION

An Adaptive Mechanism?

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Self-Deception and Detection of Misinformation

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DECEIT IS PART OF LIFE

Lying is such a central characteristic of life that its understanding is relevant to almost all human affairs. Some might shudder at this statement because they view lying as reprehensible. I do not share this view nor prescribe to the dictum that every lie be unmasked. It is too simple to hold that no one in any relationship must ever lie. As Goffman (1959, p. 64) has indicated " . . . there is hardly a legitimate everyday vocation or relationship whose performers do not engage in concealed practices which are incompatible with fostered impressions."

Lies can be cruel, but all lies are not in this category. Some lies are harmless, even humane. Some lies, many fewer than liars will claim, are altruistic. Some social relationships are enjoyed because of the myths they preserve. But no liar should presume too easily that a victim desires to be misled. And no lie catcher should too easily presume the right to expose every lie. Unmasking certain lies may

Although the emphasis on self-deception is new, most of this chapter is excerpted from my book (Ekman, 1985) Telling lies: Clues to deceit in the marketplace, politics, and marriage. *The title of this chapter uses the term "misinformation" rather than "lying" as I assume the latter is always a deliberate act. In other words, an individual who misinforms another but is unaware of his or her falsification is not a "liar" by my definition of the term.*

humiliate the recipient or a third party. Wohlstetter (1981) suggested in her analysis of cheating in arms races that the cheater and the side cheated have a stake in allowing the error to persist and that they both need to preserve the illusion that the agreement has not been violated.

Thus, in some situations *self-deception by either the conveyor of misinformation and/or the recipient may be beneficial to one or both* (Lockard, 1980, and Chapters 1 and 2). Only fabricators who are aware of their lies are likely to be caught. Also, in many deceits the victim overlooks the liar's mistakes to avoid the terrible consequences of uncovering the lie. For example, by overlooking the signs of his wife's affairs, a husband may at least postpone the humiliation of being exposed as a cuckold or, alternatively, may be able to believe, no matter how unlikely, that the affair did not take place.

The intent of this chapter is to explore the impact of self-deception on the detection of misinformation, that is, its success in preventing leakage and/or deception clues. However, before a meaningful discussion of this issue can take place, some understanding must first be reached regarding a definition of lying, the forms lying takes, the major clues to deceit, and how deceit is detected.

A DEFINITION OF LYING

Lying is defined as a deliberate choice to mislead a target without giving any notification of the intent to do so. The focus here is on what Goffman (1959, p. 59) called barefaced lies, ones ". . . for which there can be unquestionable evidence that the teller knew he lied and willfully did so." The lie may or may not be justified, in the opinion of the liar or the community. The liar may be a good or a bad person, liked or disliked. But the person who fabricates could choose not to and knows the difference between lying and being truthful. Therefore, pathological liars who know they are being untruthful but cannot control their behavior do not meet this requirement. Nor would people who do not even know they are lying, those said to be victims of self-deceit. Also, a liar may over time come to believe in his or her lie. If that happens, that person would no longer be a liar; untruths, then for reasons to be explained later, would be much harder to detect.

It is not just the liar that must be considered in defining a lie but the liar's target as well. In a lie the target has not asked to be misled, nor does the liar give any prior notification of an intention to do so. It would be bizarre to call actors liars. Their audience agrees to be misled; that is why they are there. Actors do not impersonate, as does the con man, without giving notice that it is a pose put on for a time. A customer would not knowingly follow the advice of a broker who said he would be providing convincing but false information. Also, untruths in poker (Hayano, 1979, Chapter 11)—concealment or bluffing—are *not* examples of lying. No one expects poker players to reveal the cards they have drawn. Similarly, in collective bargaining (Horowitz, 1981) no one is expected to put all of his or her cards on the table at the outset; the declaration "that is my final offer" often signifies just the

beginning in a series of compromises. Therefore, in this definition of a lie or deceit, one person intends to mislead another, doing so deliberately, without prior notification of such a purpose, and without having been explicitly asked to do so by the target.

CONCEALMENT AND FALSIFICATION

There are two major forms of lying: **concealment** and **falsification** (Handel, 1982; Whaley, 1982). In concealing, the liar withholds some information without actually saying anything untrue. In falsifying, an additional step is taken. Not only does the liar withhold true information but presents false information as if it were true. Often it is necessary to combine concealing and falsifying to pull off the deceit, but sometimes a liar can get away just with concealment. If there is a choice about how to lie, liars usually prefer to conceal rather than to falsify. There are several advantages to concealment alone. It is easier than falsifying; nothing has to be made up. Concealment lies are also much easier to cover if discovered afterwards. There are many available excuses, such as memory failure or ignorance. Concealment may also be preferred because it seems less reprehensible than falsifying. It is passive, not active. Even though the target may be equally victimized, liars may feel less guilt when they conceal than when they falsify.

Although concealing and falsifying are the predominant ways to lie, they are not the only ones. Other ways to lie include misdirecting (acknowledging an emotion but misidentifying what caused it), telling the truth falsely (admitting the truth but with such exaggeration or humor that the target remains uninformed or misled), half-concealing (admitting only part of what is true so as to deflect the target's interest in what remains concealed), and incorrect-inference dodging (telling the truth but in a way that implies the opposite of what is said). Any of these lies can be betrayed by some aspect of the deceiver's behavior.

LEAKAGE AND DECEPTION CLUES

Once challenged by the victim, the liar loses the choice of whether to continue to conceal only or to compound the lie. Falsification now becomes necessary, even though the original lie did not directly require it, to help the liar cover evidence of what is being concealed. This use of falsification to *mask* what is being concealed is especially required when emotions must be concealed. It is easy to conceal an emotion no longer felt but much harder to conceal an emotion felt at the moment, especially if the feeling is strong. Terror is harder to conceal than worry, just as rage is harder to conceal than annoyance. *The stronger the emotion, the more likely it is that some sign of it will leak* despite the liar's best attempt to conceal it. Putting on another emotion, one that is not felt, can help disguise the felt emotion. Falsifying an emotion can cover the leakage of a concealed emotion.

Any emotion can be falsified to help conceal any other emotion; the smile is the mask most frequently employed. It serves as the opposite of all the negative emotions: fear, anger, distress, and disgust. It is selected often because some variation on happiness is the message required to pull off many deceits. The disappointed employee must smile if the boss is to think she is not hurt or angry about being passed over for promotion. The cruel friend should pose as well meaning as he delivers his cutting criticism with a concerned smile.

There are two kinds of clues to deceit. A mistake may reveal the truth, or it may only suggest that what was said or shown is untrue without revealing the truth. When a liar mistakenly reveals the truth, it is called **leakage**. When the liar's behavior suggests he or she is lying without revealing the truth, it is called a **deception clue**. A deception clue answers the question of whether or not the person is lying, although it does not reveal what is being concealed. Only leakage does that. Often in everyday life it does not matter. When the question is whether or not a person is lying, rather than what is being concealed, a deception clue is good enough. Leakage is not needed. What information is being held back can be figured out or is irrelevant. For example, if an employer senses through a deception clue that an applicant is lying, that may be sufficient, and no leakage of what is being concealed may be needed to make the decision not to hire the applicant.

WHY LIES FAIL

Both leakage and deception clues are mistakes. They do not always happen. Not all lies fail. Lies fail for many reasons, such as discovery by the victim or the betrayal of the liar by someone else. What is of concern here are those mistakes made during the act of lying, mistakes the deceiver makes despite himself, lies that fail because of the liar's behavior. Not anticipating the need to lie, guilt from having lied, fear in discovery, or delight in deceiving others can all be shown in facial expression, vocal expression, or body movement, even when the liar is trying to conceal them. Just the struggle to prevent nonverbal leakage may produce deception clues.

A failure to think ahead, plan fully, and rehearse a false line may furnish clues to deceit. Even when there are no inconsistencies in what is said, lack of preparation or a failure to remember the line one had adopted may produce clues to the spoken deception. The need to think about each word before it is uttered—weighing possibilities, searching for a word or idea—may be obvious in pauses during speech or, more subtly, in slight changes in gestures or facial expressions such as a tightening of the lower eyelid or eyebrow.

Mistakes are also made because of difficulty in concealing or falsely portraying emotion. Not every lie involves emotions, but those that do cause special problems for the liar. People do not actively select when they will feel an emotion. When emotions are aroused, changes occur automatically without choice or deliberation. While concealing an emotion is not easy, neither is falsifying the appearance

of an unfelt emotion. Trying to look angry is not simple, but if fear of discovery is also felt, the person is caught between two antagonistic facial expressions. The brows, for example, are involuntarily pulled upward in fear. But to falsify anger the person must pull them down. Often the signs of this internal struggle between the felt and the false emotion betray the deceit.

Even when the lie is about something other than emotion, emotions may become involved. A vain man might be embarrassed about his vanity, and to succeed in lying about his age he would have to conceal his embarrassment as well. The plagiarist might feel contempt toward those she misleads, and to pretend to have ability that is not hers she would have to conceal her contempt. Once involved, the emotions must be concealed if the lie is not to be betrayed. Any emotion may be the culprit, but three emotions are often inexorably intertwined with deceit: fear of being caught, guilt about lying, and delight in having duped someone.

Deception apprehension is greatest when the target has a reputation for being difficult to fool; the target starts out being suspicious; the liar has had little practice and no record of success; the liar is especially vulnerable to the fear of being caught; the stakes are high; both rewards and punishments are at stake, or, if it is only one or the other, punishment is at stake; the punishment for being caught is great, or the punishment for what the lie is about is so great that there is no incentive to confess; or the target in no way benefits from the lie.

Deception guilt will be greatest when the target is unwilling; the deceit is totally selfish in that the target derives no benefit from being misled and loses as much as or more than the liar gains; the deceit is unauthorized, and the situation is one in which honesty is authorized; the liar has not been practicing the deceit for a long time; the liar and target share social values; the liar is personally acquainted with the target; the target cannot easily be faulted as mean or gullible; or there is reason for the target to expect to be misled, or, just the opposite, the liar has acted to win confidence in his or her trustworthiness.

Duping delight will be greatest when the target poses a challenge, having a reputation for being difficult to fool; the lie is a challenge, because of the nature of what must be concealed or fabricated; or others are watching or know about the lie and appreciate the liar's skillful performance.

DETECTING DECEIT

There is no one certain sign of lying; if there were, people would most assuredly lie less. It is not a simple matter to catch lies. One problem is the barrage of information. There is too much to consider at once, too many sources—words, pauses, sound of the voice, expressions, head movements, gestures, posture, respiration, flushing, blanching, and sweating. However, not every source of information during a conversation is equally reliable. Strangely enough, the least trustworthy sources—words and facial expressions—are attended to the most.

Word Clues

Liars are unable to monitor, control, and disguise all of their behavior. They tend to be most careful about their choice of words because they know they will be more accountable for their words than for the sound of their voice, facial expressions, or most body movements. An angry expression or a harsh tone of voice can always be denied; it is much harder to deny having said an angry word. Words are also the chief target for disguise because they are easy to falsify. In addition, the speaker has continual feedback—hearing what he says—and thus is able to fine-tune his message or rehearse it. Only a highly trained actor could precisely plan each facial expression, gesture, and voice inflection.

Surprisingly, many liars are betrayed by their words because of *carelessness*: they neglect to fabricate carefully or cannot remember and are inconsistent in the telling from one time to another. A few are betrayed by a **slip-of-the-tongue** (Freud, 1901/1976, p. 86), ". . . something one did not wish to say: it becomes a mode of self-betrayal." It is tempting to speculate that slips occur when the liar "wants" to be caught, although there are no studies on this issue. **Tirades** are a third way liars may betray by word leakage. The information does not slip out, it pours out as the liar is carried away by emotion and does not realize until afterward the consequence of what is revealed. Often, if the liar had remained cool, he or she would not have been discovered. A fourth source of word leakage is the convoluted answer or sophisticated **evasion**, though some studies (see review by Zuckerman, DePaulo, & Rosenthal, 1981) have not found it to be a reliable deception clue. When they lie, some people give indirect replies, are circumlocutious, and give more information than requested. A few people always speak this way, and for them it is not a sign of lying but a personality trait.

Voice Clues

The voice refers to everything involved in speech other than the words themselves. The most common vocal deception clues are **pauses**. Hesitating at the start of a speaking turn, pauses that may be too long or too frequent, or speech errors such as stammering, repetitions, or partial words may arouse suspicion. These vocal clues can occur for two related reasons: not being prepared to lie or high detection apprehension.

Deceit may also be revealed by the sound of the voice. The best-documented vocal sign of emotion is **pitch** (Scherer, 1982). For about 70% of the people studied, pitch becomes higher when the subject is upset, particularly if the feeling is anger or fear. There is some evidence that pitch drops with sadness or sorrow. Research has not been conducted regarding how pitch changes with excitement, distress, disgust, or contempt. Other promising signs of emotion, though not as well established, are louder, faster speech, as during anger or fear, and softer, slower speech, as in manifestations of sadness. Other aspects of voice quality such as timbre, different frequency bands of the energy spectrum, and changes related to respiration are also likely to be fruitful clues to deception.

In the strictest sense, voice intonation, such as raised pitch, is not itself a sign of deceit; it is a sign of fear or anger, perhaps also of excitement. The sound of the voice can also betray lies that were not undertaken to conceal emotion, if emotion has become involved. Detection apprehension will produce the voice sound of fear, and it is likely that deception guilt, if it were to be studied, might produce the same changes in the sound of the voice as sadness does. The problem for the lie catcher is that apprehensive, innocent people, not just liars, are also emotionally aroused. Also, the failure to show a sign of emotion in the voice is not necessarily evidence of truthfulness; some people never or rarely show emotion in their voice. Thus, there is no voice sign of lying *per se*, only of negative emotions. Machines designed to measure voice stress do no better than chance in detecting lies; they also don't do well at the easier task of telling whether or not someone is upset (Lykken, 1981).

Body Clues from Skeletal Muscles

Research from 1914 to 1954 (see review, Ekman & Friesen, 1969) has failed to find support for the claim that nonverbal behavior provides accurate information about emotion and personality. More recent studies on emblems (Johnson, Ekman, & Friesen, 1975), illustrators (Efron, 1972), manipulators (Ekman & Friesen, 1974a), certain postures (Mandler, 1984), and autonomically controlled behaviors (Ekman, Levenson, & Friesen, 1983) have been more productive.

Emblems The shrug and the "finger" are two examples of actions that are called **emblems**, to distinguish them from all of the other gestures that people make. Emblems have a very precise meaning, known to everyone within a cultural group. They can be used in place of a word or when words cannot be used. Most other gestures do not have such a specific meaning. Examples of other well-known emblems are the head-nod "yes," head-shake "no," come-here beckon, wave hello/goodbye, finger-on-finger "shame on you," hand-to-ear louder request, and hitchhiker's thumb.

Although emblems are almost always performed deliberately, they sometimes leak information a person is trying to conceal. There are two ways to tell if an emblem is a slip and not a deliberate message: if only a fragment of the emblem is performed or if the emblem is performed in an area other than between the waist and the neck. When an emblem is a slip, only one element will be shown and/or it will be performed out of the usual presentation location. For instance, in a shrug, raising one shoulder and then only barely, or giving the "finger" out of view, say, in your lap while seated at a table are leakage emblems. While not every liar shows an emblematic slip or does so in plain sight, when emblematic slips are detected they are quite reliable as a clue to a message the person does not want to reveal. Moreover, a lie catcher does not need previous acquaintance with a suspect to interpret an emblematic slip.

Illustrators Another type of body movement that can provide deception clues during conversation is a **speech illustrator**. People from different cultures not

only use different illustrators, but some illustrate very little while others illustrate a lot. It is the hands that usually carry out this function, although brow and upper-eyelid movements may emphasize speech, and the entire body or upper trunk can do so also. In contrast to emblematic slips that may increase in deceit, illustrators usually decrease.

Illustrators are used to help explain ideas that are difficult to put into words. Snapping the fingers or reaching in the air seems to help the person "find" the words. Such word-search illustrations may have a self-priming function, helping people put words together into reasonable, coherent speech. Speech illustrators increase with emotional involvement and, thus, decrease whenever a person carefully considers or censors the words being spoken, or when a person is emotionally uninvolved with the topic of conversation.

The lie catcher must be more cautious in interpreting illustrators than in interpreting emblematic slips. The crucial differences between emblems and illustrators are in the precision of movement and message. For the emblem, both are highly prescribed: not any movement will do; only a highly defined movement will convey a precise message. On the other hand, illustrators may involve a wide variety of movements and convey a vague rather than a specific message, and their absence is less reliable as a indication of deceit than the presence of an emblematic slip.

Manipulators A third category of body movement, **manipulators**, is the least reliable sign of deceit. Manipulators include all those movements in which one part of the body grooms, massages, rubs, holds, pinches, picks, scratches, or otherwise manipulates another body part. Such activity may either be of very short duration or go on for many minutes. The brief episodes seem to be purposive: the hair is rearranged, matter is removed from the ear canal, or a part of the body is scratched. Manipulators that last a long time seem to be purposeless: hair is twisted and untwisted, fingers rubbed, or a foot tapped incessantly.

While most people were brought up not to perform these "bathroom behaviors" in public, they have not learned to stop doing them, only to sometimes stop noticing that they do them. Manipulators are on the edge of consciousness and may occur in spite of efforts to inhibit their manifestation. Others look away when a manipulator is performed. Such polite inattention to manipulators is also a strong habit, often operating without thought.

Manipulators are unreliable signs of deceit because they may indicate opposite states: discomfort or relaxation. They occur either when one is restless and ill at ease or when one is quite relaxed and very much at ease, that is, "letting one's hair down." Also, liars know that they should try to squelch manipulators since the common folklore is that restlessness and fidgeting are valid deception clues, when in fact they may not be. Liars may succeed in inhibiting manipulators, at least part of the time, particularly if the stakes are high.

Postures Another aspect of the body—**posture**—has been examined by a number of investigators (e.g., Kraut & Poe, 1980), but little evidence of deception

leakage has been found. Posture seems well under control and successfully managed when someone is deceiving. There is the tendency to move forward with interest or anger and backward with fear or disgust, but a motivated liar should be able to inhibit all but the most subtle signs of postural clues to these emotions.

Body Clues Under Autonomic Nervous System Control

In addition to body actions involving skeletal muscles, the autonomic nervous system (ANS) also produces some noticeable changes in the body with emotional arousal: the pattern of breathing, the frequency of swallowing, and the amount of sweating. (Facial changes are also ANS-mediated, such as blushing, blanching, and the dilating of pupils discussed in the next section.) These changes occur involuntarily when emotion is aroused, are very hard to inhibit, and for that reason can be very reliable clues to deceit.

General versus specific ANS changes Until very recently, most investigators (see review by Mandler, 1984) were of the opinion that breathing rapidly, sweating, and swallowing were general characteristics of any emotion. In other words, it was thought that ANS changes marked how strong an emotion was, not which emotion it was. This view contradicts the experiences of most people: they report feeling different bodily sensations when they are afraid, for example, as compared to when they are angry. This has been explained in the past by the assumption that people interpret the same set of bodily sensations differently if they are afraid than if they are angry.

My research (e.g., Ekman, Levenson, & Friesen, 1983) challenges the view of general ANS changes and suggests that there are particular combinations specific to each emotion. If correct, such information would be important in detecting lies. It would mean that a lie catcher could discover not just whether a suspect is emotionally aroused but which emotion is being felt, that is, whether the suspect is afraid or angry, disgusted or sad. While similar information is conveyed in the face (as discussed below), people are able to inhibit many of the facial signs. Bodily changes under ANS control are much harder to censor.

Facial Clues to Deceit

With the exception of words, the face receives the greatest amount of attention from others. It is the mark and symbol of the self, the chief way we distinguish one person from another. It is also the primary site for the display of emotions. But most important for the present discourse is that the face can both lie and tell the truth, often at the same time.

The true, felt expressions of emotion occur because facial actions can be produced involuntarily, without thought or intention. The false ones happen because there is voluntary control over the face, allowing people to interfere with the felt emotion and assume a false one. Therefore, the face is a **dual system**, including expressions that are deliberately chosen and those that occur spontaneously, sometimes without the person even being aware of the facial expression

that emerges. Studies of patients with different kinds of brain damage dramatically show that the voluntary and the involuntary expressions involve different parts of the brain (Tschiassny, 1953). For example, patients who have damage to the pyramidal neural systems are unable to smile if asked to do so but will smile when they hear a joke or otherwise enjoy themselves. The pattern is reversed for patients who have suffered damage to another part of the brain, involving the nonpyramidal systems: they can produce a voluntary smile but are blank-faced when enjoying themselves.

The involuntary facial expressions of emotion are the product of evolution (Ekman, 1973). Those facial expressions indicating happiness, fear, anger, disgust, sadness, and distress are universal—the same for all people regardless of age, sex, race, or culture. However, the face can show not only which emotion is felt but also whether or not two emotions are blended together and the strength of the felt emotion, say, from annoyance to rage or apprehension to terror. Also, as people grow up they learn **cultural display rules** of emotions and, thus, of facial expressions. After a time, many display rules for the management of emotional expression come to operate automatically, modulating facial changes without choice or even awareness.

In addition to automatic habitual controls of facial expressions, people can and do choose deliberately, quite consciously, to censor the expression of their true feelings or falsify the expression of an emotion not felt. Most people succeed in some of their facial deceits. However, most are not facile in detecting false expressions of others even though they believe they are. When individuals lie, their most evident, easy-to-see expressions are the ones to which people pay attention, and these are often false ones. The subtle sign that these expressions are not felt and the fleeting hints of the concealed emotions are usually missed. The problem is that there are thousands of facial expressions, each one different from another, many having nothing to do with emotion. A considerable number of facial expressions are **conversational signals** (analogous to body-movement illustrators that emphasize speech or provide syntax) such as facial question marks or exclamation points. There are also many **facial emblems,** such as the one-eye closure wink; the raised-eyebrows, droopy-upper-eyelid, horseshoe-mouth shrug; and the one-eyebrow-raised skeptical look. There are **facial manipulators**, such as lip biting, lip sucking, lip wiping, and cheek puffing. And then there are the emotional expressions, the true ones and the false.

There is not one expression for each emotion but dozens, and for some emotions, hundreds. In fact, there are more facial expressions than there are words for any emotion. Every emotion has a family of expressions, all visibly different from one another. Consider the members of the anger family: Anger varies in (1) intensity, from annoyance to rage; (2) how controlled it is, from explosive to fuming; (3) how long it takes to begin (onset time), from short-fused to smoldering; (4) how long it takes to end (offset time), from rapid to lingering; (5) temperature, from hot to cold; and (6) genuineness, from real anger to the phony anger an amused parent shows a naughty, charming child.

The face may contain many different clues to deceit: micro elements,

squelched expressions, leakage through facial musculature, blinking, pupil dilation, tearing, blushing, blanching, facial asymmetry, mistakes in timing, mistakes in location, and false smiles. Some of these clues provide leakage, betraying concealed information; others provide deception clues indicating that something is being concealed but not what; and still others mark an expression as false. Like the clues to deceit in words, voice, and body, facial signs of deceit vary in the precision of the information they convey. Some clues reveal exactly which emotion is felt, even though the liar tries to conceal that feeling. Other clues reveal only whether the emotion being concealed is positive or negative, not which emotion the liar feels. Still other clues are even more undifferentiated, betraying only that the liar feels some emotion, but not revealing whether the concealed feeling is positive or negative.

Micro facial elements These expressions are full-face emotional expressions that last only a fraction of their usual duration (approximately ¼ second)—so quick they are usually not seen—and are followed immediately by an opposite false facial expression. For example, in a psychiatric patient who was falsely trying to convince her psychiatrist that she was no longer suicidal, the filmed interview (Ekman & Friesen, 1984), shown in slow motion, revealed a very brief sad face followed by a longer-duration false smile. Although micros provide reliable leakage of a concealed emotion, they occur very infrequently. Much more common are masked expressions.

Squelched facial expressions If as an expression emerges the person seems to become aware of what is beginning to show and interrupts the expression, sometimes also covering it with another expression, this is an example of a squelched facial expression. The smile is the most common cover or mask. When an expression is squelched, it does not always reach a full display (but lasts longer than a micro), and the interruption itself may be noticeable. However, not all liars show a micro, a squelched facial expression, and/or a mask, so the absence of these expressions is not necessarily evidence of truth. Also, some truthful individuals become emotional when suspected of lying and may reveal micros, squelches, or masks that do not indicate deceit.

Reliable facial muscles and leakage Not all muscles that produce facial expressions are equally easy to control. Some muscle actions are more reliable indicators of true emotions than others, in that very few people can make them deliberately. For example, only a small percentage of individuals can voluntarily pull the corners of their lips downward without moving their chin muscle. However, these same people will show the downward lips without chin involvement when they feel true sadness, sorrow, or grief. The **chin muscles** are reliable because individuals do not know how to deploy them in false expressions. It follows that there would be difficulty in squelching a true facial message involving the chin muscles.

The chief locus for reliable muscle movements is the **forehead**. Figure 14-1a

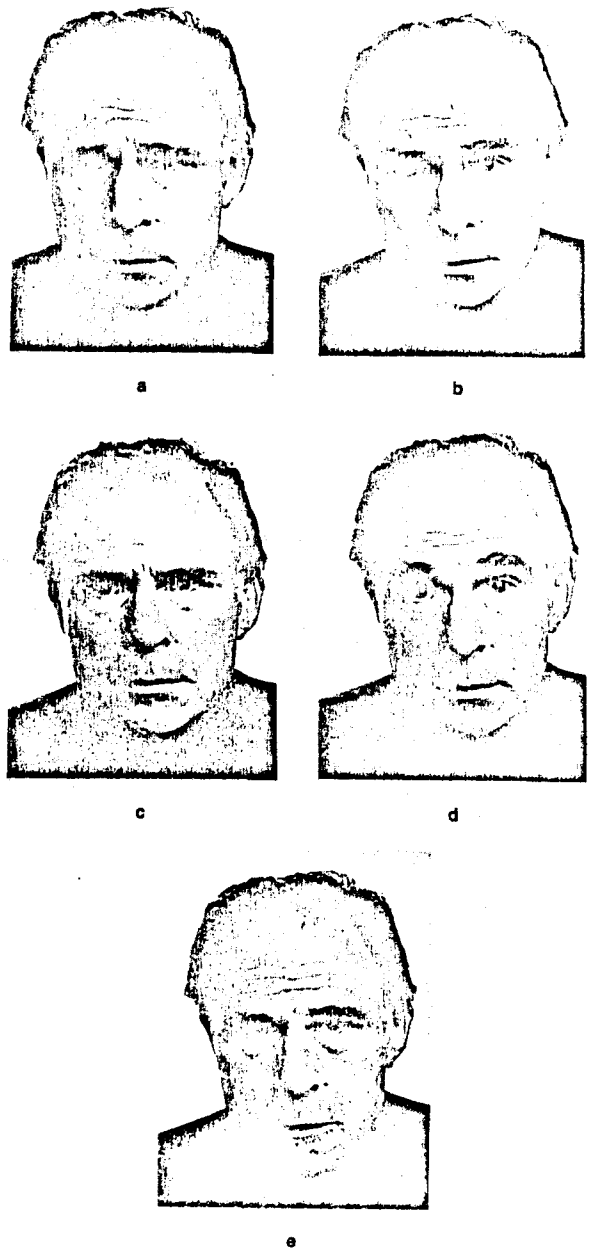

FIGURE 14–1 Facial cues of emotions: a—inner corners of the eyebrows are pulled upward: occurs reliably with sadness, grief, distress, or probably guilt; b—eyebrows are raised and pulled together: occurs reliably with fear, worry, apprehension, or terror; c—lowered eyebrows: occurs with anger, and as a conversational signal to emphasize speech; d—raised eyebrows: occurs with surprise, and as a conversational signal to emphasize speech; e—reliable mouth clue to anger: red area of lips becomes less visible. (See text for description of each.)

shows the reliable muscle movements that occur with sadness, grief, distress, and probably also with guilt. Note that the inner corners of the eyebrows are pulled upward. Usually this will also triangulate the upper eyelid and produce some wrinkling in the center of the forehead. Again, very few individuals (fewer than 15%; Ekman, Hager, & Friesen, 1981) can produce this movement deliberately. Therefore, it would not be expected to be present in a false display of these emotions and should be present when individuals truly feel them.

Figure 14–1b shows the reliable muscle movements that occur with fear, worry, apprehension, or terror. Notice that the eyebrows are raised and pulled together. This combination of action is extremely difficult to make deliberately (fewer than 10% of those tested could do so; Ekman, Hager, & Friesen, 1981). The illustration also shows the raised upper eyelid and tensed lower eyelid that typically mark fear. These eyelid actions may drop out when a person attempts to conceal fear, for these are not difficult actions to control. The eyebrow position is more likely to remain.

Figures 14–1c and 14–1d show the eyebrow and eyelid actions that occur with anger and surprise, respectively. These eyebrow actions—lowering or raising—are the most frequent facial expressions. However, the muscle movements are not reliable, in that everyone can make them deliberately. Therefore, they would be expected to appear in false expressions or to be easily concealed. These actions are also often used as conversational signals to accent or emphasize speech. Brow raises are deployed as exclamations, questioning expressions of disbelief, or emblems of skepticism. Darwin called the muscle that pulls the brows down and together the muscle of difficulty (Ekman, 1973). He was correct in asserting that this action occurs with difficult tasks of any kind, from lifting something heavy to solving complex arithmetic problems. Lowering and drawing the brows together is also common with expressions of perplexity and concentration.

There are no other distinctive eyebrow and eyelid actions that mark other emotions, although it is commonly believed, sometimes incorrectly, that the eyes can convery concealed emotions. Muscles surrounding the eyeballs do not provide reliable clues to deceit, nor does the direction of gaze, as gaze aversion is easily inhibited and common to several emotions: downward with sadness, down or away with shame or guilt, and away with disgust. Whereas involuntary blinking and pupil dilation indicate emotional arousal, they do not reveal which emotion it is. Similarly, tears as a source of information from the eye area are also common to several emotions: distress, sadness, relief, certain forms of enjoyment, and uncontrolled laughter.

There is a reliable **mouth clue to anger**. Figure 14–1e shows how in this expression the red area of the lips becomes less visible, although the lips are not sucked in or necessarily pressed. This muscle action is very difficult for most people to make. It often appears when someone starts to become angry, even before the person is aware of the feeling. It is a subtle movement and one easily concealed by smiling. Much of the face also turns red with anger, but no one knows how this reddening might differ from the blush of embarrassment, shame, or guilt. In more

controlled anger, the face may whiten or blanch as it does with fear. However, there has been very little study of tears, blushing, reddening, or blanching in relation to the expression or concealment of specific emotions.

Facial leakage by asymmetry, timing, or location Facial deception clues may also be revealed by asymmetry, timing, or location of expression. In **asymmetrical facial expressions** the same actions appear on both sides of the face, but the actions are stronger on one side than on the other. They should not be confused with **unilateral expressions**, those that appear on only one side of the face. Such one-sided facial actions are not signs of emotion, with the exception of the contempt expressions in which the lip corner is tightened on one side. Instead, unilateral expressions are used in emblems such as the wink or the skeptical raise of one eyebrow.

Crooked expressions, in which the actions are slightly stronger on one side of the face than the other, are a clue that the feeling shown is not felt, although some studies have indicated otherwise. Sackeim, Gur, and Saucy (1978), under the assumption that the right cerebral hemisphere is more involved than the left in the control of emotional expression, cut facial pictures I had supplied in half and created double-left or double-right photographs. Each reconstructed picture was a full-face, mirror image of one or the other side of the face. People rated emotion as more intense when they saw the double-left (mediated by the right hemisphere) than the double-right pictures. I noticed that there was one exception: there was no difference in the judgments of the happy pictures. Being the photographer, I knew that the happy pictures were the only nonposed emotional expressions because the rest had been made by asking models to move particular facial muscles deliberately; the happy pictures were of models in off-guard moments while they were enjoying themselves.

Ekman, Hager, and Friesen (1981) had a different assumption, namely that the cerebral hemispheres direct voluntary facial movements while the lower brain areas mediate involuntary movements. They found a much lower incidence of asymmetrical expressions (slightly stronger on the left side of the face if the person was right-handed) with genuine, felt (not staged) smiles than did Sackeim, Gur, and Saucy (1978). When people were asked to smile deliberately or pose happiness, more asymmetry emerged (Ekman, 1980). In addition to the smile, Hager and Ekman (1985) found that the brow-lowering action, often part of the anger display, was stronger on the left side of the face when the action was made deliberately. Also, the nose-wrinkling action involved in disgust and the stretching of the lips back toward the ears found in fear were usually stronger on the right side of the face if the actions were deliberate.

Although many asymmetrical facial expressions are unfelt, asymmetry is not certain proof that an expression is unfelt. Similarly, the absence of asymmetry does not prove that the expression is felt; asymmetry is not leakage but a category of deception clues that includes facial timing and location as well.

Timing encompasses the duration of a facial expression and its onset and offset latencies. Most felt expressions are of short duration (less than five seconds). Therefore, expressions of long duration (greater than five seconds) are likely to be false. Long expressions are usually emblems or mock expressions. For onset and offset latencies there is no hard and fast rule governing when they are likely to be deception clues, except in the case of surprise. Onset, offset, and duration all must be short—less then a second—if surprise is genuine. If it is longer it is mock surprise (the person is playing at being surprised), a surprise emblem (the person is referring to being surprised), or false surprise (the person is trying to seem surprised when not). For all other emotional expressions the onset and offset may be abrupt or more gradual, depending upon the context in which the expression occurs. For example, in a joke-telling situation, the time it takes for the smiling actions to appear depends upon the build-up to the punch line, and the length of time for the smile to disappear is a function of the type of joke.

The **location** of an expression in relation to the flow of speech, voice changes, and body movements is the third source of deception clue in the facial category. For instance, if someone is falsifying anger and says so before the angry expression appears, the expression is more likely to be false than if it appeared at the start, or even a little before the verbal statement. There seems to be less latitude about where to position facial expression in relation to body movement. Suppose during the verbal statement of anger an individual banged a fist on the table. If the angry facial expression followed the bang it is more likely to be false. Facial expressions that are not synchronized with body movement are most probably deception clues.

Smiles as signs of deceit No discussion of deception clues would be comprehensive without considering smiles, the most frequent of all facial expressions. They are unique among facial displays of emotion because it takes but one facial muscle to express happiness while most other emotions require the action of three to five muscles. The common element in most members of the smile family is the change in appearance produced by the zygomatic major muscle. This muscle reaches from the cheekbones down and across the face, attaching to the corners of the lips. When contracted, the zygomatic major pulls the lip corners up at an angle toward the cheekbones. With a strong action this muscle also stretches the lips, pulls the cheeks upward, bags the skin below the eyes, and produces crow's-feet wrinkles beyond the eye corners. (In some individuals this muscle also pulls the tip of the nose down slightly; in still others there will be a slight tug at the skin near the ears.) Other muscles merge with the zygomatic major to form different members of the smile family; and a few smiling appearances are produced not by the zygomatic but by other muscles.

The **simple smile**,[1] Figure 14–2a, produced by singular action of the zygomatic major muscle is a genuine, uncontrolled, positive expression. The simple

[1]In Ekman, 1985, the simple smile is called the **felt smile**.

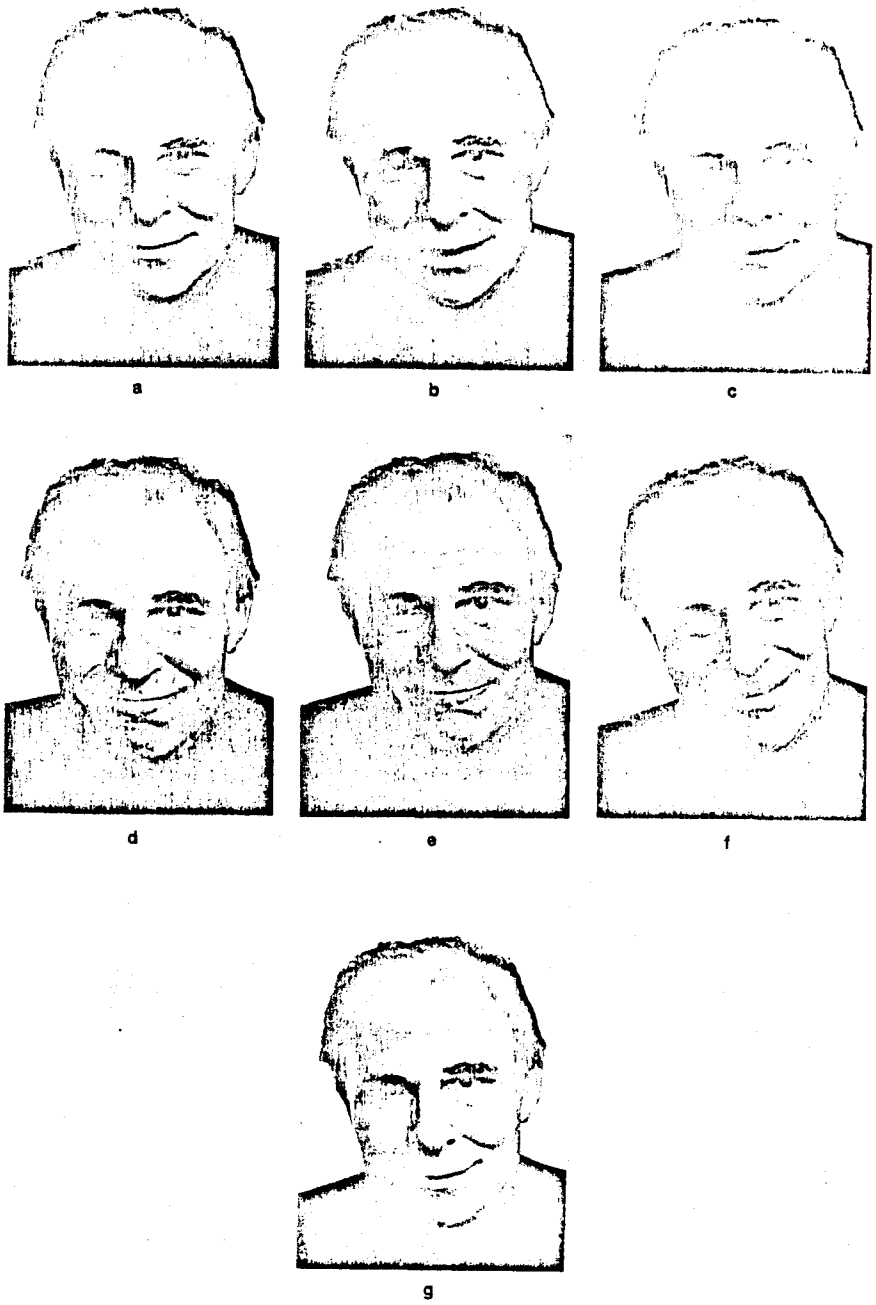

FIGURE 14–2 Genuine smile: a—simple smile (called *felt smile*, Ekman, 1985). Smiles as signs of deceit: b—fear smile; c—contempt smile; d—dampened smile; e—miserable smile; f—Chaplin smile; g—false smile. (See text for description of each.)

smile is the easiest facial expression to recognize and can be seen from further away (300 feet) and with a briefer exposure than other emotional expressions (Hager & Ekman, 1979). No other muscles in the lower part of the face enter into this felt smile. The only action that may also appear in the upper face is the tightening of the muscle that circles the eyes. This change in the upper face can also be produced by a strong action of the zygomatic major—raised cheeks, bagged skin below the eyes, and crow's-feet wrinkles. Felt smiles last longer and are more intense when positive feelings are more extreme (Ekman, Friesen, & Ancoli, 1980; Ekman & Friesen, 1982).

The **fear smile** (Figure 14–2b) has nothing to do with positive emotions but is sometimes mistakenly classified as such. It is produced by the risorious muscle pulling the lip corners horizontally toward the ears so that the lips are stretched to form a rectangular shape. As the risorious pulls the lips horizontally, the lip corners will sometimes tilt upward to cause confusion in smile classification. In a fearful expression the rectangular-shaped mouth (with or without an upward lip-corner tilt) will be accompanied by the brows and eyes shown in Figure 14–2b.

The **contempt smile** (Figure 14–2c) is another misnomer since it, too, has little to do with positive emotions, although it is often so construed. It involves a tightening of the muscle in the lip corners, often a dimple, and a slight angling up of the lip corners. (Contempt can also be shown by a unilateral version of this expression in which one lip corner is tightened and slightly raised.) Again, it is the angling up of the lip corners as well as the dimple—shared characteristics with the simple smile—that cause the confusion. The chief difference between the two expressions is the tightened lip corners, which are present in contempt and absent in the simple smile.

The **dampened smile** (Figure 14–2d) expresses a positive emotion but with an attempt to display less intense feelings than are actually being felt. The aim s to dampen, to keep within bounds, but not to suppress the emotional experience. The lips may be pressed, the lip corners tightened, the lower lip pushed up, or the lip corners pulled down, or any combination of these actions may merge with the simple smile.

The **miserable smile** (Figure 14–2e) acknowledges the experience of negative emotions. It is not an attempt to conceal but a facial comment on being miserable. The appearance of the expression also means that, at the moment, the person is not going to protest the misery—he is going to grin and bear it. The key difference between the versions of the miserable and the dampened smiles shown in Figure 14–2 is the absence in the former of any evidence of the muscle tightening around the eyes. The crow's-feet wrinkles and the pulling in of the skin around the eyes are part of the dampened smile because enjoyment is felt: they are absent from the miserable smile because enjoyment is not felt. The miserable smile may also show in the eyebrows and forehead, the felt negative emotions being acknowledged.

The **smile blend** (not shown) is the simultaneous expression of a combination of two or more emotions experienced at once. Any emotion can blend with any other emotion. The examples described here are blends with the simple smile. In the enjoyable-contempt expression the simple smile merges with the tightening of one

or both lip corners. In the enjoyable-sadness blend the lip corners may be pulled down in addition to the upward pull of the simple smile, or the simple smile may merge with the upper portion of the sad face. In the enjoyable-surprise face the brow is raised, the upper lid is raised, and the simple smile is evident from the dropped jaw.

The flirtation smile and the embarrassment smile (not shown) are two other examples of blends, but ones in which the simple smile is combined with a particular gaze. The Chaplin smile (Figure 14–2f) is an unusual expression, produced by a muscle that most people cannot move deliberately. It is a supercilious smile that smiles at smiling: the lips angle upward much more sharply than they do in the simple smile. And, finally, there are four other smiles (not shown) that are made deliberately and share the same appearance but serve quite different social functions, as their names suggest: the qualifier smile, the compliance smile, the coordination smile, and the listener-response smile (Ekman, 1985, pp. 156-157). These unfelt smile blends can be replaced at any time by the simple smile if the individual is truly enjoying the social situation.

The false smile Now let us consider the only smile that lies. The **false smile** (Figure 14–2g) is intended to convince another person that positive emotion is felt when it is not. Nothing much may be felt, or negative emotions may be felt that the liar may try to conceal by using the false smile as a mask. Unlike the miserable smile that acknowledges that pleasure is not felt, the false smile tries to mislead the other person into thinking that the smiler is having positive feelings.

There are a number of clues for distinguishing false smiles from the felt smiles they pretend to be. False smiles: (1) are more asymmetrical than felt smiles, (2) are not accompanied by the involvement of the muscles around the eyes, (3) have noticeably inappropriate offset times, and (4) act as masks, covering only the actions of the lower face and lower eyelid and not the reliable muscles of the forehead.

A test of facial deceit In an initial study (unpublished) of felt versus unfelt smiles involving student nurses, two clues to detection of unfelt smiles were tested. We measured the absence of movement of the muscle around the eyes and the presence of signs of disgust (nose wrinkling) or contempt (tightening of the lip corners). It was hypothesized that the nurses would show felt smiles in an "honest" interview (when they had watched a pleasant film and described their feelings frankly), and conversely, that they would show false smiles in the "deceptive" interview (when they had watched a very unpleasant film but tried to appear as if they were seeing another pleasant film). The results were exactly as predicted, and very strong: in the honest interview there were more felt than false smiles and no smiles that leaked either disgust or contempt; in the deceptive interview the leakage smiles appeared and there were more false than felt smiles. The strength of the findings was surprising in that most people seemed not to use these clues when judging others. In earlier studies (Ekman & Friesen, 1974b), the very same videotapes of facial expression were shown to subjects who were asked to judge when the nurses were lying. They did no better than chance.

SELF-DECEPTION IN THE PERPETRATION OF MISINFORMATION

Whereas no special talent is required to understand how to spot clues to deceit, it is apparent that practice is necessary to become skilled in doing so. But anyone who spends the time, looking and listening carefully, watching for the clues described above, can improve in detecting misinformation. While there could be a school for lie catchers, a school for liars would make little sense. Lying cannot be improved appreciably by merely knowing what to do and what not to do. And for two reasons, I seriously doubt that practice alone could make one an exceptional liar. First, a self-conscious liar, who planned each move as he made it, would be like a skier who thought about each stride as he went down the slope. Second, it is very difficult, even if you are skilled at lying, to make no mistakes. Most people escape detection only because the targets of their deceits do not care enough to work at catching them. It is very hard to prevent any leakage or deception clues, although the degree of success would be dependent in part on the difficulty of the lie.

Degree of Lie Difficulty

An easy lie for a liar should produce few mistakes and, therefore, be hard to detect, while a hard lie should be easy to detect. An easy lie would not require concealing or falsifying emotions because there would have been ample opportunity to practice the specific lie, the liar would be experienced in lying, and the target would not be suspicious. The hardest lies are those about emotions felt at the time of the lie; the stronger the emotions and the greater the number of different emotions to conceal, the harder the lie will be to execute.

Emotional Reexperience

A technique that might allow difficult lies to be more successfully perpetrated involves **method acting** (also called the Stanislavski acting technique; Stanislavski, 1936). This theatrical technique can be used to bring reliable facial muscles into play because it teaches the actor how to accurately show emotion by learning how to remember and reexperience it. This was the method utilized in the ANS research mentioned earlier. In those studies, when a subject used the technique, his or her facial expressions were not made deliberately but were the product of the reexperienced emotion. As the research findings suggested, the physiology of emotion was similar to felt emotion.

Self-Deception Minimizes Leakage or Detection Clues

The line between false and felt becomes fuzzy when emotions are produced by the Stanislavski technique. A situation that should prove even more successful would be one in which the deceiver came to believe that the lie was true. Such deception would be virtually undetectable and "bested" only by the deceiver who believed the lie was true from the very beginning. Under such circumstances, the emotions of the perpetrator would not be those of a liar who inadvertently might leak or reveal the deception. Rather, the deceiver would believe the information to

be accurate and, therefore, not a lie. *Self-deception avoids the apprehension and guilt of deceit.*

Sociality Breeds Self-Deception

Finally, let us return, armed with more information, to the idea stated at the beginning of this chapter—that deceit is a way of life—and consider what it would be like if false information were always conveyed or, alternatively, the truth never manifested. Suppose treachery was as easy with emotions as with ideas. If expressions and gestures could be disguised and falsified as readily as words, our emotional lives would be impoverished and more guarded than they are. If, on the other hand, we could never deceive, if a smile was always reliable and never present without pleasure, life would be rougher than it is, many relationships would be harder to maintain. Politeness, attempts to smooth matters over, to conceal feelings one wished one did not feel—all that would be gone. There would be no way not to be known, no opportunity to sulk or lick one's wounds except alone.

CONCLUSIONS

It does seem that our sociality requires, if not demands, a middle ground (some degree of deception), be it concealment, falsification, or self-deception. And, only with self-deception can we escape many of the potential problems of deceit, for it is the "truth" as the perpetrator sees it that is used to deceive. What better way to convince others of that which is false than to believe that your argument is true?

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