

## CHAPTER 4

# Reading human faces

### 1 The human face: a “mirror” or a “tool”?

The current debate on facial expressions is sometimes cast in terms of a choice between two opposing views: human faces as “read-outs” of inner emotions (e.g. Ekman 1972, 1989, 1994a and b; Izard 1971, 1977, 1994, 1997) vs. human faces as “social signals” (e.g. Fridlund 1994, 1997). By using the term “reading”, I am not in fact opting for the “Emotional Expression Approach” as against the “Social Communicative Approach” (Chovil 1997). I believe that both these conflicting positions embody part of the truth, but only part.

Ekman’s position can be illustrated with the following quote:

The same facial expressions are associated with the same emotions, regardless of culture or language . . . There are some facial expressions of emotion which are universally characteristic of the human species . . . While facial expressions of emotion will often be culture specific because of differences in elicitors, display rules and consequences, there is also a pan-cultural set of facial expressions of emotion . . . The evidence now proves the existence of universal facial expressions . . . Regardless of the language, of whether the culture is Western or Eastern, industrialized or preliterate, these facial expressions are labelled with the same emotion terms: happiness, sadness, anger, fear, disgust and surprise. (Ekman 1980: 137–8)

And more recently (Ekman 1992a: 175): “The strongest evidence for distinguishing one emotion from another comes from research on facial expressions. There is robust, consistent evidence of a universal facial expression for anger, fear, enjoyment, sadness, and disgust”.

In the past there was also a strong emphasis in this approach on the “discreteness” of the so-called “basic emotions” (cf. e.g. Ekman and Friesen 1971: 124: “The results provide evidence in support of the hypothesis that the association between particular facial muscular patterns and discrete emotions is universal”), and this is how this approach has been generally understood. (Cf. e.g. Oatley and Jenkins 1996: 67: “Investigators have found expressions specific to discrete emotions. Emotions may be considered discrete in the sense that they

are produced and recognized panculturally.") In his recent work Ekman (e.g. 1992b, 1994b) continues to insist that his "basic emotions" (that is, those supposedly linked with "pancultural facial expressions") are anchored in distinct neural patterns (Izard's (1991: 17) phrase is "innate neural programs"):

There is evidence . . . for distinctive patterns of autonomic nervous system (ANS) activity for anger, fear and disgust, and it appears that there may also be a distinctive pattern for sadness . . . It is necessary to posit emotion-specific central nervous system (CNS) activity in my account of basic emotions . . . There must be *unique* [original emphasis] physiological patterns for each emotion, and these CNS patterns should be specific to these emotions and not found in other mental activity. (Ekman 1994b: 17–18)

By continuing to talk about "each emotion" Ekman continues, in effect, to present the so-called "basic emotions" as discrete phenomena. He also continues to imply that these "discrete phenomena" can be identified by means of English lexical categories such as "anger" or "sadness". From this perspective, English lexical categories such as "sadness" or "anger" appear to cut nature at its joints and correspond to distinct neural programs, whereas the lexical categories of languages like Ifaluk or Pintupi (cf. Lutz 1988, Myers 1986; see also Wierzbicka 1992a and c) can only correspond to "blends".

Arguing against the doctrine of "basic emotions", Van Brakel (1994: 188) wrote: "Why should 20th century English name these universal emotions correctly? It can only be because Ekman believes that English is at the pinnacle of the evolution of naming of the structure of the experiential world". The logic of Ekman's approach seems to imply, indeed, not only that the English lexical categories name the structure of the experiential world "correctly" but also the functioning of the central nervous system!

Ekman's claims have been challenged by different scholars, from different points of view (cf. in particular, Fridlund 1994; Ortony and Turner 1990; Camras 1992; Russell 1994; Van Brakel 1994). In my own work (cf. Wierzbicka 1986a, 1990d, 1992a and c, 1993b, 1995b) I have questioned above all Ekman's use of English words like *anger*, *fear*, or *sadness* to describe what he claims to be universal facial expressions, "regardless of language". The speakers of other languages in fact think about human experience in terms of other, non-matching, conceptual categories (e.g. *rabbia* rather than *anger* in Italian, *grust'* and *pečal'* rather than *sadness* in Russian, and *Angst* rather than *fear* in German (see chapters 1 and 3)); they do not "read" any human faces as "angry", "sad", or "fearful", but rather interpret them in terms of their own language-specific categories.

I have also argued that the use of global labels like *angry*, *sad*, or *happy* (or *enjoyment*) does not do justice to the ways speakers of English “read” human faces either. As Ekman himself acknowledged in his more recent work (cf. e.g. Ekman 1994a), different facial configurations can be described by speakers of English as “angry”, whereas the same face can often be interpreted by different people (and even by the same person at different times) differently (e.g. as “frustrated”, “gloomy”, “determined”, “aggressive”, and so on).

Admittedly, in his more recent work Ekman does acknowledge that emotion labels do not match across cultures. In particular, in his unfortunately somewhat tendentiously titled “Reply to Russell’s mistaken critique” (Ekman 1994a: 270) he states that “There is no reason to expect that every culture will label the emotions in exactly the same way”, adding that he and his associates “never claimed that facial expressions evolved to represent specific verbal labels”. Nevertheless in this paper, too, he does revert to earlier formulations, for example, when he says the following (p. 276):

Russell complained that we and others preselected our expressions [i.e. emotion labels] . . . We had theoretical and empirical reasons to expect that certain expressions would be universal, and of course, we selected just these stimuli . . . By showing only expressions selected according to an a priori criterion to people from different cultures, we determined whether *those* expressions were interpreted the same way over cultures.

But the point is that, as empirical cross-linguistic studies show, there are simply *no* emotional expressions (i.e. labels) interpreted the same way across cultures.<sup>1</sup>

The fundamental problem remains: how can the “basic emotions” be identified across languages and cultures if the labels are variable and unreliable? Ekman’s polemical strategy on this point is a familiar one (cf. Wierzbicka 1995f): like Lazarus (1995) and others, he declares that he is not interested in *words* but in *emotions* and *facial expressions*, and he makes light of the objections of those (like Russell) whom he sees as interested in mere words.

From my theoretical perspective, emotions are not reducible to labels. An emotion label is a shorthand that stands for a number of processes and responses that occur during an emotion . . . Russell is interested in emotion words, not in emotions per se and certainly not in facial expressions. I have not been primarily interested in emotion words but in facial expression and more generally in emotion. (Ekman 1994a: 282)

But if a label like “fear” or “anger” is just a shorthand abbreviation for something else, surely it is legitimate to ask: What is it shorthand

for? How are we to know what Ekman and his colleagues are talking about when they say, for example, that "A number of separate, discrete, emotional states such as fear, anger, and enjoyment, can be identified which differ not only in [facial] expression but probably in other important aspects"? (1992a:170) By refusing to take an interest in words, Ekman and his colleagues end up relying on English words; as a consequence, despite all their disclaimers, they absolutize the English folk-taxonomy of emotions.

Having introduced in his more recent work the notion of "family of emotions", Ekman talks about "each emotion family" as having "a theme and variations", and, for example, of the "anger family" he says that while "there are more than 60 anger expressions" nonetheless "in all members of the anger family the brows are lowered and drawn together, the upper eyelid is raised and the muscle in the lip is tightened" (1992a: 172). It is not explained, however, exactly what is meant by "the anger family". Although it is now acknowledged that a term like *anger* is not reliable as a tool for identifying human emotions, it has not been replaced by anything else. But if we are not to take the term *anger* as crystal-clear, how are we to know what is meant by "the anger family"? We are told that the combination of "lowered and drawn together brows, raised upper eyelids and tightened muscle in the lip" is a pancultural expression of *something*, but we are not given any clues (other than the avowedly unreliable English word *anger*) as to what this something might be.

None of this of course is intended to call into question the great value of Ekman and his colleagues' pioneering research which has reawakened scholarly interest in emotions and in their universal facial correlates; but as Mandler (1997) and others have suggested, the time has come for a change of paradigm. To opt for a change of paradigm, however, does not mean that one has to give up the stimulating metaphor of "reading human faces". I would argue that faces can indeed be "read", and that some facial configurations (and behaviours) can indeed be "read" in the same way by different people within one culture or across all cultures, as Ekman and his associates have argued for decades. The questions which I will try to address in this chapter are these: What exactly can be "read" from human faces? What meanings can be associated with what facial behaviours? and, above all, in what metalanguage can these meanings be formulated (if they are not to be formulated in terms of English labels like *happy*, *angry*, or *sad*)?

It is also extremely important to clarify what exactly we mean by the metaphor of "reading human faces". Do we mean "reading" a person's inner states which are involuntarily "mirrored" in the person's face or do we mean some "messages" which may or may not correspond to

what is actually going on “behind the face” (in the person’s “heart” and “mind”)?

Ekman appears to imply that he is talking about a person’s “authentic” emotions rather than about any “social signals”. Although he does talk about different “display rules” (cf. e.g. Ekman 1984, 1989), he seems to mean by that that people may be suppressing the expression of their authentic emotions, or that they may be putting on false expressions for social reasons (e.g. false smiles).

On the other hand, Fridlund (1997) emphatically rejects the distinction between “authentic” and “false” expressions, arguing that all facial expressions are, essentially, social. According to Fridlund, “facial expressions are not readouts of an ‘emotional state’” (1997: 127); rather, they are “messages” (p. 104). Even when we are alone or “talking to ourselves . . . we often act as if others are present”, and our faces are “communicative” even then (p. 119). Consequently, he argues, “we must finally dispatch the notion that the face mirrors the passions of the soul” (p. 124).

I believe Fridlund’s points are well taken, and a valuable corrective to the decades of dominance of the “Emotional Expression” paradigm. In particular, I strongly agree that “facial displays are not ‘expressions’ of discrete emotional states” (Fridlund 1997: 104). It is to be hoped that the doctrine of “discrete emotional states” (and the concomitant doctrine of “blends”) will soon be put to rest. The fact that the main proponent of the older paradigm, Paul Ekman, has now himself started to talk about “families of emotions” and “families of facial expressions” (cf. Ekman 1992a, 1994a and b), rather than “discrete emotions”, as he did in the past, is very encouraging from this point of view (although it is difficult to see how this new view coheres with the doctrine of distinct neural patterns, associated with “distinct emotions”).<sup>2</sup>

But if faces embody “messages”, why should we abandon the term “readouts”? The metaphor of “reading” seems particularly appropriate to “messages” which can be “read” – not like scientific instruments in a lab, but as human sentences can be “read” (i.e. understood) by fellow human beings.

## **2 From the “psychology of facial expression” to the “semantics of facial expression”**

The analogy between “facial behaviour” and language stressed by Fridlund is both valid and important. But if we accept that facial expressions are, in some respects, analogous to linguistic utterances, then we are moving from the domain of “the psychology of facial expression” to that of “the semantics of facial expression”; and then we

have to take the basic assumptions and the methodological experience of the discipline of semantics into account.

In comparing “facial displays” to linguistic units and in stressing (quite correctly) the role of context in the interpretation of linguistic utterances, Fridlund (1994) appears to ignore the notion of “semantic invariants”, that is to say, of those aspects of meaning which do *not* depend on context. For example, he writes:

For the behavioural ecologist, the same smile would likely be labelled an “about to appease” display, and it would deliver the same message as the words, “I give in” or “Whatever you say” . . . By analogy with language, I may use the word *pen* to denote a writing implement in one context and a holding area in another, and there is no requirement that the writing *pen* be pronounced any differently than the cattle *pen*: the context determines the word’s signification. Similarly, I may smile both when I am giving a gift and when I am exacting revenge. The context determines whether the smiles signify “I like you” or “Gotcha!”, and the faces needn’t be different. (p. 107)

But the analogy between a word like *pen* and a smile is spurious. The English word *pen* is simply polysemous: it has two distinct meanings, which have to be stated in a dictionary as such, and not one meaning with context-dependent elaborations. The context may help other people to understand which of the two meanings the speaker has in mind, but the polysemy of the word *pen* is a fact about the English language (as a semantic code), not a creation of the context (the words for “pen” in other languages do not share the same pattern of polysemy). Crucially, the two meanings of the English word *pen* do not have a common denominator (a shared invariant), present in all its uses.

The status of a smile, as a semiotic category, is quite different: a smile is not polysemous (it doesn’t have a fixed number of distinct meanings), and it does have one semantic invariant identifiable independently of context. As I have argued in earlier publications (cf. Wierzbicka 1993b, 1995b and d), the core meaning of a smile (that is, roughly speaking, of the configuration of facial muscles in which the corners of the mouth are raised, and of the movement which produces this configuration), can be stated as follows: “I feel something good now”. Various possible interpretations of smiles such as those mentioned by Fridlund (“I give in”, “Whatever you say . . .”, “I like you”, “Gotcha!”, and so on) do indeed depend on the context; but they are compatible with the one meaning proposed here as the invariant core meaning of a smile (“I feel something good now”), and can be regarded as context-dependent elaborations of this invariant rather than as context-independent distinct invariants, as in the case of *pen*. For example, the “appeasing smile” can be interpreted as signalling the message “I don’t want you to

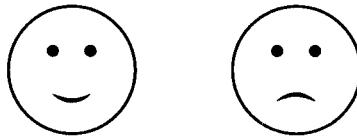


Figure 1

think that I feel something bad now, I feel something good now, I don't want to do anything bad". The "I like you" smile can be interpreted as signalling the message 'I think good things about you, when I think about you I feel something good, I feel something good now', whereas a "revengeful" ("Gotcha!") smile can be interpreted along the following lines: "I want to do something bad to you (because you did something bad to me), I can do it now, because of this I feel something good now".

Since I am talking here about the semantics of smiles, not the psychology of smiles, no claims are being made about the smiling person's actual feelings, or actual thoughts, but only about the meaning of the observable "displays" (whether these "displays" are sincere or not does not affect their *meaning*). We can't "read" a person's actual feelings from their facial expression, but we can "read" the message associated with some forms of "display". In particular, from the raised corners of the mouth we can "read" the message 'I feel something good now', whereas from the lowered corners of the mouth we can read the message 'I feel something bad now'. In Anglo culture (but also, for example, in Japanese culture; cf. Thayne and Suzuki 1996) this is sometimes symbolized by means of the schematic drawings in Figure 1 (cf. also Cüceloglu 1970) which are meant to signal either "good feelings" or "bad feelings".

It is true, then, that a smile sends a message, and that this message has a meaning. I would argue, however (pace Fridlund), that this meaning is identifiable, and that it has a context-independent invariant. The fact that in studies such as Kraut and Johnston (1979) "Smiles were observed more frequently when individuals were in social contact with others than when they were not facing or interacting with others" and that "people smiled more often to other people than as a result of some pleasurable experience" (Chovil 1997: 324) is perfectly compatible with the proposed semantic invariant of a smile. Often, it makes a great deal of sense for people to send to others the message "I feel something good now" (e.g. "when I see you"), whereas a pleasurable solitary experience doesn't have to be reflective and there is no reason to expect that it would often be accompanied by a message "I feel something good now" addressed either to oneself or to an imaginary addressee.

At the same time, I would argue (against Ekman, Izard, and others) that the meaning of a smile cannot be identified by means of one particular English word, such as *happy*, because, first of all, some smiles would often be interpreted as "amused", "cheerful", "serene", "joyful", "playful" etc. rather than necessarily "happy", and second, because other languages have other interpretive categories and so it would be ethnocentric to interpret all human messages (verbal or non-verbal) in terms of English lexical categories such as "happy". (In fact, Ekman himself alternates in his interpretation of smiling between different words, such as *happy* and *enjoyment*, as if these words meant exactly the same.)

Similarly, a facial configuration with the corners of the mouth lowered has an identifiable constant (context-independent) meaning, but this meaning, too, cannot be validly interpreted by means of some global and language-specific label such as *sad* or *unhappy*. It can be, however, validly interpreted by means of a language-independent semantic formula phrased in lexical universals such as "I feel something bad now".

For scholars like Ekman or Izard, who argue for the universality of human facial expressions, it should be congenial to be able to state those hypothetical meanings in universal terms (i.e. in terms which have exact semantic equivalents in each of the world's languages), rather than portraying them through the prism of the researcher's own language and culture.

### 3 "Social" does not mean "voluntary"

One crucial feature that facial "messages" have in common with verbal utterances is that they, too, express meanings which can be identified in the same metalanguage of universal semantic primes in which all verbal meanings can be identified. This means, in effect, that all facial messages can also be expressed verbally; for example, the message "I feel something good now" can be expressed either verbally or facially.<sup>3</sup>

On the other hand, the reverse is not true: there are many messages which can be expressed verbally but cannot be expressed facially, for example, "She feels something good now" or "I felt something good yesterday". As these examples illustrate, facial messages are necessarily "first person, singular, present-tense" ones (like performative verbs; cf. Austin 1962). In this restriction to the speaker's (actor's) current state facial expressions are similar to exclamations and interjections. An utterance like *Damn it!* or *Shit!*, too, can only express a first-person, singular, present-tense, meaning (very roughly, "I feel something bad now, I want to do something because of this"; cf. Wierzbicka 1991). As

in the case of facial expressions, the meaning of an exclamation doesn't have to correspond to the speaker's actual current feelings: it can be sincere or "put on", but the meaning itself has an inherent first-person orientation. (Even if someone exclaims "Ouch!" to empathize with somebody else's pain, the expressed meaning includes the component "I feel something bad now", not "you feel something bad now".)

The analogy with exclamations and interjections can, I think, help us to clarify the issue of voluntariness of facial expressions. In Ekman's model, facial expressions appear to be essentially involuntary (and biologically based), unless they are "put on" for social reasons and therefore "false". Thus, summing up the results of his celebrated study comparing the "facial displays" of Americans and Japanese, Ekman (1984: 321) wrote: "In private, when no display rules to mask expressions were operative, we saw the biologically based, evolved, universal facial expressions of emotion".

Fridlund attacks this position and emphasizes the voluntary character of facial expressions; I think, however, that he goes too far in this direction, unnecessarily linking "meaning" with "voluntariness". In his model, people are said to "issue" certain faces (rather like one can "issue" orders, or official statements). For example, he writes: "In order to flourish, one must issue faces that primarily serve social motives, not any quasi-reflexive emotion" (1997: 105).

But one doesn't "issue" exclamations like "Shit!" or "Damn it!", although one may utter them more or less deliberately. The question is not whether such utterances are "voluntary" or "involuntary", but what they *mean*; and the important point is that they encode meanings which are social ("public") and which can be identified by semantic analysis, quite regardless of any particular speaker's state of mind or degree of premeditation. Similarly, one doesn't "issue" smiles or raised eyebrows, although one may produce them more or less deliberately. Again, the question is not whether such facial expressions are voluntary but what they *mean*.<sup>4</sup>

I also think that Fridlund may be exaggerating the "evolutionary advantage" of keeping one's feelings to oneself or displaying them only in a controlled and self-serving intentional way. Consider, for example, the following passage:

Signals do not evolve to provide information detrimental to the display. Displayers must not signal automatically but only when it is beneficial to do so (i.e., when such signalling serves its aims within an interaction). Automatic readouts or spillovers of drive or emotion states (for example, "facial expressions of emotion") would thus be extinguished early in phylogeny in the service of deception, economy, and privacy. (p. 109)

But, first, “privacy” is an Anglo cultural ideal, not a universal human value. Furthermore (as we will see in chapters 5 and 6), some cultures, for example Russian culture, value “spontaneous emotional expression” much more highly than does Anglo culture or than Fridlund would allow. It also seems that Fridlund takes a rather narrow view of what is “beneficial to the displayers”. To begin with, it can be beneficial to the group if its members know what the other people in the group are feeling and what their needs are. Furthermore, although some “automatic readouts” (i.e. involuntarily betrayed emotions) may not be beneficial within a particular interaction, spontaneous displays of emotion may be seen (within a particular culture) as valuable and “advantageous” on a different level, e.g., by helping create closer bonds between people. We need to be careful not to absolutize the “evolutionary advantage” of values like “privacy” and “self-control”, which are, after all, highly culture-specific.

What matters in the present context is that some “facial expressions” are indeed “social signals” which have an identifiable meaning. Whether a particular smile is voluntary, involuntary, or semi-voluntary, or “false”, sincere, or semi-sincere, is irrelevant from the point of view of this smile’s social meaning: no matter what a smiling person actually feels, or thinks, or wants, a smile as such never means “I feel something bad now”; it always means “I feel something good now”.

#### 4 What kind of “messages” can a face transmit?

If we leave aside the psychological issue of voluntariness, and focus, instead, on the semantic issue of what certain identifiable facial expressions mean, we are bound to recognize that the set of messages which can be expressed by our faces constitutes only a tiny fraction of the messages which can be expressed verbally. Some proponents of the “Social Communicative Approach” tend to exaggerate the semantic potential of human faces, and, in particular, fail to acknowledge their first-person present-tense limitations. For example, Chovil (1997: 322–3) states that “within a communicative approach, facial displays are hypothesized to be symbolic representations of a wide variety of meaning” (emphasis added); and also, that “they (...) enable individuals to communicate effectively and efficiently with others on a variety of topics” (emphasis added).

In my view, this is an exaggeration. There is only one topic on which “facial displays” enable us to communicate “effectively and efficiently”, and this topic is “myself”; and not even “myself in general” but “my inner self now”; more precisely still, “some aspects of my inner self now” (cf. Wittgenstein 1967: 84). Above all, my face communicates

what I feel, and also, in a very limited way, what I think, what I know, and what I want.

Speaking specifically of “faces in dialogue”, Bavelas and Chovil (1997: 337) maintain that “facial displays . . . signify rather than reveal”. I think the disjunction is not necessary: they certainly “signify”, but no doubt they “reveal”, too. What needs to be emphasized at this stage, when a change of paradigm appears to be finally under way (cf. Mandler 1997), is that they *also* signify; and that their signification can be studied in rigorous and methodologically coherent ways.

Chovil (1997) claims that faces can “depict” past occurrences, and that they can carry messages about the external situation such as “Danger” in addition to “first-person” messages such as “Fear” (i.e. “I feel fear” or “I am afraid”). But the fact that actors or story-tellers can “depict” in their faces emotions which they don’t currently feel does not demonstrate that an actor’s smile can mean “She felt something good at that time” rather than “I feel something good now”. The words uttered by an actor also “depict” somebody else’s thoughts, feelings, and actions, but this doesn’t mean that the meaning of the words used by an actor is different from the meaning of the same words used in ordinary life. What is different is the pragmatic context, and the background assumptions, but not the meaning of the words.<sup>5</sup>

## 5 Messages are not “dimensions”

If we want to regard facial expressions as “messages”, however, our hermeneutics should be intuitively plausible and should aim at representing the actor’s, rather than the “observer’s” (i.e. the scientist’s), point of view (cf. Shore 1996). In particular, it is important to note that a “dimensional” model, such as those often used by psychologists in the past, and more recently resurrected (as he put it himself) by Russell (1997), cannot reveal the *semantics* of a facial “message” (whatever else it may or may not achieve), because the “dimensions” of this kind reflect the scientist’s, not the actor’s point of view.

Consider, for example, the face discussed by Russell (1997: figure 13.3) and reproduced here as figure 2. Russell notes that according to Ekman and Friesen (1975) and Matsumoto and Ekman (1988) this face shows an expression of fear, and he suggests an alternative interpretation in terms of three dimensions: “intense displeasure, very high arousal, and visual attention” (Russell 1997: 310).

Whatever the merits of such an analysis might be, it must be noted that it uses highly technical language and proposes a technical set of “meanings”, not an ordinary person’s language and an ordinary person’s set of meanings. It shows how a psychologist might analyse a



Figure 2

facial expression, not how a non-specialist could describe her own state of mind. (To say this is not to criticize the “dimensional” approach but merely to point to the obvious: it is a specialist “observer’s model”, not a non-specialist “actor’s model”.)

From this point of view, the traditional label “fear” (interpreted as meaning: “I feel fear now”) is preferable to the proposed set of dimensions: if the person portrayed is a speaker of English, she could conceivably think, and say, “I feel fear” (or “I feel afraid”), but certainly not “[my] displeasure is intense, [I am] very highly aroused, [I am paying] visual attention”.

Nonetheless, I would agree with Russell that the actual message sent by the face in question is less specific, and of course less culture-dependent, than “I feel fear” or “I feel afraid”. Trying to articulate this message in an “actor’s model”, we could experiment with semantic formulae such as “I feel something bad now”, “I think that something bad is happening”, “I think that something bad can happen”, “I want to know more about it”, etc.; that is, formulae which an ordinary person could, in principle, say and understand, and which could be exactly translated into any other human language (for they rely exclusively on universal human concepts).

Russell (1997: 304) states that “In the psychology of emotion, a traditional debate has pitted categories of emotion against dimensions”, and he argues, in my view quite convincingly, against the “standard account”, that is, against interpreting faces in terms of categories like “happy”, “angry”, or “afraid (fear)”. In fact, Russell’s own studies (especially Russell 1991, 1994, and 1995) have played a major role in bringing about the “change of paradigm” hailed by Mandler

(1997). What these studies have done is to demonstrate that the “standard” account of emotions and facial expressions is questionable.

But the “dimensional” account is not the only possible alternative to the “standard” account. Looking at photographs such as the one in Russell’s Figure 13.3 (1997: 310) (reproduced here as figure 2), which the “standard” approach interprets as “an expression of fear”, and which Russell himself has analysed in terms of the three dimensions of “intense displeasure”, “very high arousal”, and “visual attention”, I would propose a third type of analysis, portraying the *actor’s* meaning, not the *observer’s* (i.e. the scientist’s) meaning, and doing so in terms of universal semantic primes, along the following lines: “I feel something bad now”, “I think that something bad is happening”, and “I want to know more about it”.

Russell’s proposed dimensions of “pleasure” and “displeasure” are of course akin to components like “I feel something good now” and “I feel something bad now”, posited here. But the other dimensions proposed by him (such as “agitated vs. sleepy”) do not translate equally easily into intuitively intelligible sentences formulated in universal human concepts; and the claim that “judgments about . . . pleasure and arousal are made quickly and automatically by all human beings, whatever their language or culture” (p. 298) appears to me unfounded. Moreover, since other languages don’t have words corresponding exactly to the English *arousal* or *pleasure*, imputing to all other people, “whatever their culture or language”, a “quick and automatic” judgment based on these notions seems to me to suffer from the same flaw as imputing to people all over the world English categories such as “happy”, “angry”, or “sad”.

Regardless of what the basis for the proposed “dimensions” might be, they cannot be rooted directly in the judgments of non-specialists, “whatever their language and culture”. Furthermore, “dimensions” of this kind cannot even be *tested* with untrained informants, because they do not relate to ordinary people’s experience or understanding. By contrast, formulae such as “I feel something bad now” or “I want to know more (about it)” are “experience-near” (cf. Geertz 1984[1976]) and intuitively intelligible, and can be tested against actors’ and experiencers’ own intuitions.

## 6 “The face alone” or “the face in context”?

Opposition to the “standard account” of human faces would be more effective if it were not so frequently accompanied by claims that no firm generalizations about the meaning of facial actions can be made at all. After all, the appeal of the “standard account” was based largely on the

strong generalizations this account offered. If these generalizations are now being refuted or questioned without any alternative generalizations being proposed, this can hardly look like a cause for rejoicing. And yet some opponents of the “standard account” seem to be doing just that: claiming that no generalizations can be made and presenting this conclusion as a very positive development.

For example, Chovil (1997: 330) writes (echoing Fridlund’s remarks on the vital importance of “context” in the interpretation of facial signals): “Research discussed here, as well as other work on nonverbal communicative acts, has revealed that the meaning or function of the display may not be apparent when the display is viewed out of context. The same action(s) may serve several different functions.” Chovil also links the “emerging view that emphasizes the social and communicative function of facial displays” with “the assumption that facial displays are expressive *to* another person rather than expressive *of* an underlying state”, and she opposes the view of facial displays as “a route into psychological processes” to one which analyses them “in terms of the messages they convey to others in communicative situations” (p. 321).

What she appears to overlook is that we can also speak of the *meaning* of a certain type of facial display, regardless of what it happens to *convey* to various addressees in various communicative situations. In doing so, she appears to be jumping from the “psychology of emotions” directly to the “pragmatics of communication”, and ignoring semantics – the study of the context-independent *meaning* of “social signals” (the meaning of something, not the information conveyed by it, in context, *to* a particular person). When Russell (1997: 313) argues that “the meaning attributed to a given facial stimulus even when seen alone still depends on context”, it sounds as if he, too, believed that no firm and context-independent generalizations about the meaning of any facial movements or actions can be made.

Russell (1997: 313) questions Izard’s (1997) argument “that we need to study judgements of the face alone in order to examine ‘the independent signal value of the facial signals’” and comments: “The notion that the face alone has but one specific meaning (a specific basic emotion on the standard account) presupposes that the meaning attributed to the face is invariant across a reasonable range of observational contexts . . .” (p. 314). In my view, however, Izard’s point is well taken, although I would suggest one correction: to establish the independent semantic value of “facial signals” we need to study “the face alone”, not “*judgements of the face alone*”.

Russell (1997) has demonstrated quite convincingly that “the face alone” cannot be interpreted in terms of an invariant global (i.e.

“gestalt”) meaning such as “fear”, “anger”, or “surprise”. He has not demonstrated, however, that no “independent signal value” can be attributed, regardless of context, to specific components of facial behaviour, such as a smile or a frown. Nonverbal signs, like words, require careful semantic analysis and cannot be established by “judgments” of untrained observers. To precisely identify the meaning of a word like *envy*, or *Schadenfreude*, or *remorse*, the semanticist must carefully examine a given word’s range of use, sift through dozens of examples, and also dozens of sentences in which the word could *not* be appropriately used, and come up with an interpretive hypothesis (formulated in terms of more elementary concepts) which would best approximate the observed range of use. If the meaning of a word were to be established on the basis of casual comments by untrained observers, we would have to conclude that words have no stable meanings any more than smiles or frowns do. The biologist Nigel Wace (1981), who went around asking people what the word *weed* meant, collected no less than 2000 different “definitions”, but this doesn’t mean that the word *weed* has no stable and identifiable meaning (cf. Wierzbicka 1985a: 89–90).

Similarly, to establish the meaning of a smile or a frown we need to use proper techniques of semantic analysis, rather than merely to question casual observers; and we have to look for what remains constant across a variety of contexts.

## 7 Analysing facial behaviour into meaningful components

Semantic analysis presupposes structural analysis: to establish the meaning of a sign (e.g., a word) we have to delimit this sign from the complex within which it occurs. Similarly, to establish the meaning of a facial configuration we have to analyse it into simple (or simpler) signs which can be shown to carry their own meaning.

In “facial analysis” such a structural analysis is often done by establishing a list of what Russell (1997: 301) calls, following Snodgrass (1992), “single action units” or “elemental facial movements”. Russell (1997: 301) reports some of Snodgrass’ results in the form of a table which lists, among others, the following “units”: “Inner brow raised”, “Outer brow raised”, “Brow furrowed”, “Upper eyelid raised”, “Cheek raised”, and “Lower eyelid raised”.

But the experience of modern linguistics suggests that a structural analysis of signs has to go hand in hand with semantic analysis: we cannot establish what the “minimal units” are if we don’t ask from the outset what the “minimal meaningful units” are. In the case of the human face, it is doubtful that movements such as “cheek raised” or “lower eyelid raised” do have any identifiable invariant meaning at all;

or whether "inner brow raised" and "outer brow raised" can be shown to have two distinct meanings (identifiable by ordinary people in ordinary interpersonal communication).

On the other hand, if structural analysis of the face is carried out jointly with semantic analysis, the following eight movements at least emerge as meaningful minimal units of facial behaviour:

1. "Brow furrowed" (i.e. eyebrows drawn together)
2. Eyebrows raised
3. Eyes wide open
4. Corners of the mouth raised
5. Corners of the mouth lowered
6. Mouth open (while not speaking)
7. Lips pressed together
8. Nose wrinkled

The matter requires of course further investigation, in a variety of cultural settings. To be fully productive and reliable, however, such an investigation requires a rigorous semantic methodology. As mentioned earlier, it will not do to record casual ad hoc judgments of untrained "informants". What we can do instead is to formulate careful hypotheses phrased in English exponents of universal human concepts (such as, e.g. "I feel something bad now" or "I don't know what I can say now"), and to translate them into the matching configurations of elementary concepts in several different and culturally distant languages (e.g. in Russian "ja čuvstvuju teper' čto-to ploxoē", "ja ne znaju, čto ja mogu teper' skazat'"), and to test them with trained native consultants, familiar with the basic principles of semantic analysis and semantic methodology. In this chapter I can do no more than formulate, and briefly comment on, a handful of interpretive hypotheses, as a starting point for further cross-linguistic and cross-cultural testing.

Since the facial meanings pursued in this chapter are presumed to be universal rather than culture-specific (a presumption open of course to testing and in need of verification), it is reasonable to expect that their basis will turn out to be either iconic or indexical (in Peirce's sense; cf. Peirce 1932) rather than symbolic and conventional. For example, if we attribute to wide opened eyes the semantic component "I want to know more (about it)" it is clear how such a meaning could be gleaned, universally, from the gesture itself (with its implied message "I want to see more"), without the help of any local conventions. Similarly, if we attribute to an open yet silent mouth the semantic component "I don't know what I can say", it is clear how this meaning could be "figured out" (whether consciously or unconsciously), without the help of any local conventions.

What I mean by “iconic” and “indexical” is that the basis for decoding lies either in similarity (“like”) or in co-occurrence (“when”). For example, the wrinkling of the nose (usually linked in the literature with “disgust”) can convey that I feel “something bad” *like* a person does *when* she has to smell something bad that she doesn’t want to smell. The gesture (which feels uncomfortable if we try to perform it) looks like a rather futile attempt to remove one’s nose (or at least the bottom part of one’s nose) from close contact with something malodorous, and so it can be seen as implying a message along the following lines:<sup>6</sup>

I think this is bad  
 I don’t want to know anything about this  
 I can’t not know anything about it now  
 I feel something bad now

There is an inferential leap here from “smell” to “know” (and in the case of wide open eyes from “see” to “know”), but this leap makes sense in the light of ordinary experience of people as “embodied beings”; and the same applies to other similar leaps “from body to mind” in the interpretation of facial behaviour. This is why facial gestures can function as social signals, that is, as messages which can be uniformly interpreted by other people, regardless of languages and cultures. (As Messinger, Fogel, and Dickson (1997: 213) put it, “facial expressions are simultaneously experiential and social”.)

To say that gestures of this kind have an iconic and indexical basis is not to deny that they may be innate, as suggested by the fact that they can be observed in blind children, too (cf. Eibl-Eibesfelt 1972). A visible iconic basis may reinforce an invisible innate disposition; and besides, an iconic basis is, above all, experiential (a blind person has “muscular”, if not visual, knowledge of frowns, smiles, and other facial gestures).

Of course there are also various culture-specific facial gestures, based on convention; and the interpretation of these – like the interpretation of verbal utterances – does depend on knowledge of the relevant conventions (cf. e.g. Hasada 1996). In this chapter, however, I will focus on a set of hypotheses concerning a number of facial gestures which appear to be iconic and/or indexical and therefore universally interpretable.

Before proceeding to present these hypotheses, however, let me make one general point. A “componenital” analysis of the semantics of the face has been likened, not without justification, to the analysis of linguistic meanings into semantic primitives. In particular, Izard (1992: 563) has written:

Ortony and Turner (1990) also argued that some components of emotion expressions may be basic even though the emotions themselves are not. This is similar to the idea, discredited by many, that some components of words (semantic primitives) are simpler and more basic than the words themselves. Regardless of the merit of this controversial notion in semantics, its generalization to the bio-psychological phenomena of emotions is questionable.

Although Izard doesn't say who is responsible for advancing the theory of semantic primitives and using it as a basis for research into language, culture, cognition, and emotion, I think he can only mean the present writer. He does not, however, explain why he regards this idea as "discredited" or who exactly the "many" are who have "discredited" it. While he dismisses both the theory of semantic primitives and the "componential" approach to facial expressions, in fact, Izard's own theory of "differential emotions" suffers from the same problems that beset Ekman's theory of "discrete universal emotions" and their supposedly universal facial reflections. In this chapter I will try to show how the two related ideas – that of universal semantic primitives and that of identifiable facial "components" with identifiable meanings – can bear fruit in the interpretation of human facial expressions and how this approach can provide a viable alternative to the older paradigm.<sup>7</sup>

## 8 Summing up the assumptions

These are, then, my basic assumptions, on which the analysis proposed in this chapter is based:

1. We need to distinguish the "semantics of human faces" from the "psychology of human faces".
2. Semantic analysis (whether of verbal utterances or of facial expressions) must distinguish between the context-independent invariant and its contextual interpretations.
3. Certain facial configurations do have identifiable, context-independent meanings.
4. The meanings of facial configurations can be identified in the form of messages formulated in simple universal human concepts (e.g. "I feel something good now").
5. The meanings of facial configurations have an inherent first-person and present-tense orientation, and to be correctly identified must be represented in this mode (e.g. "I feel something good now" or "I want to know more").
6. The meanings of some facial expressions are universally intelligible and can be interpreted without reference to any local conventions.

7. To be fruitful, the semantic analysis of facial expressions needs a methodology. This can be derived from the methodological experience of linguistic semantics, and its basic theoretical tools, such as the notion of "polysemy", the notion of "semantic invariant", or the notion of "semantic component".
8. A semantic analysis of the human face has to be linked with a structural analysis, and requires the identification of minimal meaningful units of facial behaviour. This means, in effect, that to be fruitful, the semantic analysis of the face has to adopt a "componential" approach to the task, as suggested by Ortony and Turner (1990), Scherer (1984 and 1992), Smith and Scott (1997), and in fact, to a large extent, Darwin (1955[1872]).
9. The basis for the interpretation of facial gestures is, above all, experiential. One has no experience of, for example, raising one's cheeks (it is not something that one can do at will, and be conscious of doing), and so there is no meaningful facial gesture of "raising one's cheek" (even if our cheeks *are* actually raised when we raise the corners of the mouth). On the other hand, the raising of the corners of one's mouth is something that one can feel oneself do (as well as see in other people's faces), and so this gesture can indeed be regarded as meaningful (it is both experiential and social).<sup>8</sup>
10. The "semantics of the human face" can rely on the same "natural semantic metalanguage" which has been tested, over three decades, in linguistic semantics, and which has been applied to large-scale studies of semantic domains such as emotions, speech acts, and social interaction. Using this metalanguage, we can formulate the meanings of "facial expressions" from the actor's point of view, which we need to do if we really believe that "faces" send "messages". It is ordinary people, not scientists, who communicate by means of faces. Scientists can of course build their own models ("observers' models"), to communicate with one another; but if we want to understand messages that ordinary people send to one another (e.g. by means of a smile, a "frown", or raised eyebrows), we must put ourselves in ordinary people's shoes and posit messages which make sense to ordinary people. The use of the Natural Semantic Metalanguage allows us to do just that.

## **9 In what terms should facial behaviour be described?**

Before we try to assign meanings to specific elements of facial behaviour we have to decide in what terms we are going to describe such behaviour. For example, are we going to talk about the function of the

"corrugator supercilii" or about the meaning of a "frown"? And are we going to talk about "wide opened eyes" or about a face in which "the upper lid is raised, exposing the sclera (white) above the iris" (Ekman and Friesen 1975: 52)? Generally speaking, are we going to use scientific (anatomical and physiological) categories or more or less "naive" categories, reflecting the perspective of the "person in the street"?

If what we are really after is the meaning of certain facial expressions then the answer seems to be clear: we have to focus on those aspects of facial behaviour which are noticeable and apparently meaningful to "ordinary people". Words such as *frown* or *smile* and expressions such as *raised eyebrows* and *pursed lips* provide linguistic evidence for the psychological reality of certain perceptions: they demonstrate that people do notice "raised eyebrows" or "pursed lips" and attribute meaning to them. By contrast, there is no comparable linguistic evidence demonstrating that people are aware of the "raising of upper eyelids" or of "the skin below the brow [being] stretched" (Ekman and Friesen 1975: 45).

On the other hand, "naive" categories such as "a frown", "a smile", or "a pout" cannot be taken for granted either, because they are language-specific and their meaning may be partly due to "local" linguistic and cultural conventions. For example, while in ordinary English people speak of "opening one's eyes wide" (e.g. in surprise or fear) rather than of the "whites of the eyes showing (above the iris)", in Japanese, the reverse is the case (Hasada 1996); and in Russian one can speak not only of "opening one's eyes wide" (as in English), but also of making "big eyes", "round eyes", or even "square eyes" (Iordanskaja and Paperno 1996: 53; see also chapter 5) – options which are not available in English.

If people all over the world can communicate to some extent by means of facial behaviour, the meaning of the relevant facial signs must be both noticeable (perhaps even salient) to "ordinary people" (i.e. non-scientists) and "decodable" on some sort of universal basis. It may be premature to make any assertions as to the nature of this universal basis but the existing literature on facial expression does allow us to venture some hypotheses. In doing so I will try, as usual, to stay as close as possible to the level of linguistic and conceptual universals. I will not try to avoid "naive" and near-universal words like *eyes*, *eyebrows*, or *mouth* (cf. Goddard forthcoming a), although I will avoid references to "inner brow", "outer brow" or "lower eyelids", for which most languages, including English, do not seem to have distinct words or common descriptive phrases.

Trying to speak in "naive" but not overly language-specific terms, I will propose analyses of the following eight facial gestures which

emerge from the literature as possible universals (no doubt not an exhaustive list):

1. One can deliberately move one's eyebrows so that they will be (relatively) close together. This movement suggests, ironically, that "I want to do something" (as I want to move my eyebrows). It also appears to suggest, as does any deliberate movement in the part of the face above the eyes, that "I'm thinking now".

How do people know (other than "innately") that the gesture of drawing one's eyebrows together can convey the message "I'm thinking now"? Arguably, the basis of this knowledge (innate or not) is also experiential and in any case it can be experientially tested: just try to think hard for a moment about anything whatsoever, and the chances are that you will find yourself "frowning". (Of course in many cultures thinking can also be associated with other parts of the body in addition to the head in general and the forehead in particular: the heart, liver, kidneys, and so on; but this is not incompatible with an experientially testable association between thinking and moving some parts of one's face above the eyes.)<sup>9</sup>

In fact, the existence of an experiential basis is also the reason why I believe the drawing of the eyebrows is meaningful whereas their lowering is not: although we can feel ourselves raising our eyebrows we can't feel ourselves lowering them; on the other hand, we *can* feel ourselves drawing our eyebrows together. Thus, it is the drawing of the eyebrows together, not their lowering, which has an experiential basis and can be meaningful to the "actor" (even in the case of a blind person).

The gesture in question could, then, be described in a "naïve", non-scientific way as follows: a person is doing something with her eyebrows as one would if one wanted to draw one's eyebrows close together. (For a fuller discussion see below, section 10.)

2. One can move one's eyebrows upwards. Like other movements in the area of the face above the eyes, this, too, can be interpreted as suggesting that I'm thinking about something. In addition, it can be said that when I move my eyebrows upwards I am moving them as if I wanted to see more. To quote Stephen Peck (1987: 98), author of the *Atlas of Facial Expression*: "Not only does brow raising facilitate lid raising, but it also further increases the field of vision . . . Raised brows can be a part of many different attitudes, but the reason is almost always the same: to increase the visual field".

The claim that the *reason* for raised brows is "almost always the same: to increase the visual field" is somewhat fanciful, but it is not an exaggeration to *describe* the gesture in question with reference to such a goal: when I raise my eyebrows I move them *like* a person does when

she moves her eyebrows upwards because she wants to see more above her. It is easy to guess at least part of the implied message: "I want to know more". (For a fuller discussion see section 11.)

3. One can "open one's eyes wide", or make them "big", or "round", or, in more general terms, do something with one's eyes like a person would who would want her eyes to be big (for a short time) so that she can see more. I am not trying to state and justify the core meaning of such a gesture here (I will do this in section 12), merely to "describe" the gesture itself. But here, too, it is easy to guess the implied message: "I want to know more".

4. One can do something with one's mouth in such a way that the corners of one's mouth move upwards (a "smile").

There is of course more to a prototypical "smile" than just the raising of the corners of the mouth: for the scientist, there is also the contraction of the muscle "orbicularis oculi which raises the cheek and gathers the skin inwards form around the eye socket" (Ekman 1989: 155); and for the naive observer, one might add, there is also the "showing of the teeth". All these facial events, however, are subsidiary to the core event (the raising of the corners of the mouth). Experientially, neither the wrinkles around the eyes (the famous "Duchenne smile"), nor the "raising of the cheek" have any semiotic value of their own, and "ordinary people" don't have to be aware of them as a necessary, or even typical, aspect of smiling (one can't produce these effects at will and one can't feel oneself doing these things); and a baby's toothless "smile" is still thought of, by "ordinary people" (as well as by scientists) as a "smile".

Assuming, then, that what we mean by "smiling" is, essentially, the voluntary raising of the corners of one's mouth, let us briefly consider this gesture's core meaning: if the core meaning of a "smile" is indeed, as I have often argued, "I feel something good now" (cf. Wierzbicka 1993b, 1995b and d), then how – on what basis – can people identify this meaning? I propose, roughly speaking, the following iconic and experiential basis for this apparently universal interpretation: the mouth of a "smiling" person looks like the mouth of a laughing person; and laughter is pleasurable to the laughing person; that is, in my terms, when a person is laughing she feels "something good" (cf. Plessner 1970[1961]); accordingly, a "smiling" mouth can be experientially linked with feeling "something good".

Normally, of course, a laughing person has a reason to laugh, and this reason may lie in a pleasant feeling of amusement, delight, or whatever. But my point is that, in addition, laughing itself "feels good", and so a "laughing-looking mouth" indexes "feeling something good";

and since a “smiling mouth” looks like a “laughing mouth” (minus the sound), a smiling mouth, too, can convey the message “I feel something good now”. To quote Darwin (1955[1872]: 209):

Between a gentle laugh and a broad smile there is hardly any difference, excepting that in smiling no reiterated sound is uttered . . . the habit of uttering loud reiterated sounds from a sense of pleasure, first led to the retraction of the corners of the mouth and of the upper lip, and to the contraction of the orbicular muscles; and that now, through association and long-continued habit, the same muscles are brought into slight play whenever any cause excites in us a feeling which, if stronger, would have led to laughter; and the result is a smile.

The fact that in many languages the same (or closely related) words are used for both “laughing” and “smiling” (lexically distinguished in English as two different activities) supports this: e.g. in Polish *śmiech* vs. *uśmiech*, in French *rire* vs. *sourire* (literally, “under-laugh”), in German *lachen* vs. *lächeln* (with a “diminutive” suffix for “smiling”); and in Vietnamese *cu’ð’i*, for both “laughing” and “smiling” (Nick Enfield, personal communication).

5. I can also “do something with my mouth” by deliberately moving the corners of my mouth downward. It seems likely that the core meaning of such a facial gesture would be universally understood as the opposite of that of a “smile”, that is as, in essence, “I feel something bad now”. The semiotic basis for this interpretation could lie simply in the diametrical contrast between two positions:

- ∪ → I feel something good now
- ∩ → I feel something bad now

The grimace moving the corners of the mouth down feels, I suggest, uncomfortable (that is, in simple terms, the person making it “feels something bad”—a suggestion open to experiential verification), and this could be an additional basis for the message which would be attributed to such a face (possibly, universally): “I feel something bad now”.

6. Another thing that one can do with one’s mouth (not necessarily deliberately) is to “open it” and to keep it like this for some time. Usually a gesture of this kind is linked with surprise or astonishment. Darwin (1955[1872]: 279) quoted in support of such an interpretation Shakespeare’s line (from “King John”): “I saw a smith stand with open mouth swallowing a tailor’s news”. As mentioned earlier, the iconic basis for such a gesture’s meaning is clear: if I do this, I’m doing something with my mouth like a person does who wants to say something and then, against expectations, I don’t say anything. To avoid the English-specific term “open” in favour of universal concepts such as

“do” and “move”, we could describe this gesture in just such quasi-functional terms, that is, we could say that the person whose expressive behaviour we are describing is moving her mouth like a person does who wants to say something and yet doesn’t say anything. As suggested earlier, the implied message of such a gesture is likely to be: “I don’t know what I can say”.

7. One other widely recognizable gesture which one can make with one’s mouth or, more precisely, with one’s lips is to press one’s lips tightly together. Ekman and Friesen (1975: 83) speak in this connection of “the closed, lip-pressed-against-lip mouth”, which they call “the anger mouth” (alongside the “open, square anger mouth”) and which they claim is linked with two quite different kinds of anger: “It occurs when the person is engaging in some form of physical violence, bodily attacking another person. And it occurs when the person is attempting to control a verbal, shouting anger, and presses the lips together in an attempt to keep from shouting or saying something hostile” (p. 87).

In fact, the implied message of such a gesture is not necessarily that of “anger” (see section 14 below). The gesture has a clear iconic basis: by deliberately pressing my lips tightly together I convey the impression, on the one hand, that “I want to do something” (as I’m doing something with my lips), and, on the other hand, that “I don’t want to say anything”. Again, to avoid both scientific language and “naive” but language-specific expressions such as *pursed lips*, we can say that the person making such a gesture is doing something with her mouth like a person would who would want to prevent her mouth from being able to move.

In sections 11–15, I will discuss some of these facial gestures in more detail, focussing on their meaning and the semiotic basis for their interpretation. First, however, some general comments are in order about using the same framework for analysing verbal and non-verbal communication.

## 10 Humans and primates: a unified framework for verbal, non-verbal, and preverbal communication

While this chapter focusses on the semantics of human faces, the framework applied here is also applicable to the analysis of other aspects of non-verbal as well as verbal communication. For example, the message “I want to know more”, which can be assigned to raised eyebrows, is closely related to the message “I want to know something”, which can be assigned to rising intonation; and the message “I don’t know what I can say” assigned to an open (but silent) mouth is

closely related to the message “I don’t know what I can say, I don’t want to say anything about this to you now”, which can be assigned to the gesture of shrugging one’s shoulders.

As Goodenough (1994: 263) observes, “A theory or interpretation that accounts for more of the phenomena under consideration is preferable to one that accounts for fewer of them. One that is consistent with interpretations that account for other kinds of phenomena is preferable to one that is not.” On this criterion alone, a theory which provides a unified framework for both verbal and non-verbal communication, and for facial as well as non-facial (bodily) non-verbal communication, should be preferable to theories which present different communication systems as completely unrelated.

For example, when Ekman and Friesen (1975) assign to raised eyebrows two entirely different interpretations: “surprise” and “question” (calling the latter an “emblem”) they are clearly missing something that the two have in common. An invariant component such as “I want to know more (about it)” identifies the missing link.

The abyss which separates so-called “formal semantics” dealing with verbal language (cf. e.g. Chierchia and McConnell-Ginet 1990; Cann 1993) from the study of non-verbal communication (and which also ignores emotions, interjections, exclamations, and so on) is particularly striking. As the anthropologist David Parkin notes (1996: 115):

much theoretical linguistics depends, for its data, on the fiction of the socially decontextualised speech event: it focuses on strings of grammatically acceptable sentences that are supposed to have truth-values, but completely omits any reference to the vital paralinguistic properties of gesture, mood and sentiment . . . The anthropological corollary would be the absurd claim that there exists a linguistically decontextualized culture, one that operates without language and that can be studied as such. I find such an idea preposterous, as I do the idea of separating out verbal language from non-verbal communication. Indeed, the category of the verbal, set up by such separation, is itself an analytic fiction.

The very fact that intonation is a necessary aspect of spoken language, distinguishing, for example, statements from questions, supports the validity of Parkin’s comment; and the fact that one can, so to speak, ask questions with one’s eyebrows, as well as with one’s intonation or with interrogative particles such as *czy* in Polish or *li* in Russian, further highlights the underlying unity of verbal and non-verbal communication.

This is not to deny, needless to say, the central role of (verbal) language in human life, but rather to recognize its links with other types of communication, including that of non-human primates, and

the desirability of a framework within which such links can be explored and accounted for. To quote Mandler (1997: ix):

Nearly 100 years ago, Wilhelm Wundt in the first volume of his monumental *Völkerpsychologie* noted that "language presumably developed out of the simpler forms of expressive movements". Among the expressive skills that surely contributed to the early communicative behaviors of preverbal *H. sapiens* were facial, gestural, vocal, and "body language" expressions. Even today, other primates communicate not too badly by the use of these devices. Should early humans have been expressively mute by comparison? And if not, is it unlikely that some of these devices survived into the present, just as so many other aspects of our bodily equipment did?

The framework developed in this book is applicable to the communication of primates as much as it is to human communication, both verbal and non-verbal. For example, the literature on primate communication can be said to suggest the following meanings conveyed by more or less ritualized visual displays as well as vocal signals:

1. I want to do something bad to you now  
(so-called "threats" and "aggressive displays", in which "a tendency to attack is greatly preponderant", Moynihan 1976: 247)
2. I think: something bad can happen now  
I want everyone to know this  
(so-called "warning signals", cf. e.g. Simonds 1974: 141–2)
3. I think: something very bad will happen to me now  
I can't do anything  
(so-called "squealing", "fear-signals", cf. e.g. Simonds 1974: 146)
4. I know: something very bad is happening now  
I have to do something because of this now  
(so-called "alarm patterns in which a tendency to escape is greatly preponderant", Moynihan 1976: 247)
5. I say: I am here  
I want everyone to know this  
(cf. Tomasello and Call 1997: 257: "it is safe to say that the function of chimpanzee pant-hoots is currently unknown, although they almost certainly serve to announce to groupmates the caller's location.")

Assigning NSM meanings of this kind to visual and auditory signals of primates may seem anthropomorphic, but in fact it is no more so than the traditional language of primatology, including expressions such as "warning displays" or "alarm calls". To quote one primatologist, Pamela Asquith (1984: 170), the author of a paper entitled "The inevita-

bility and utility of anthropomorphism in description of primate behaviour": "Terms such as 'threaten', 'submission', 'dominance', 'beg', 'chase', 'play' are so much part of the literature that they do not jolt or surprise the reader. However, the fact that other terms, such as 'refrain', do surprise the reader is a reminder that the metaphorical process is constantly in the background and constantly implying the human reference of the terms."

As Roy Harris (1984: 174) notes in his comment on Asquith's paper, "we have no plausible alternative but to use an anthropomorphic conceptual framework in our analyses of animal communication". (Harris (*ibid.*) also rightly points out that in fact there is no reason "to construe the application of communication vocabulary to animal signalling as being metaphorical" – a point which Asquith concedes (pp. 175–6).)

NSM formulae such as "I want to do something bad to you now" do jolt or surprise the reader more than "threat" or "warn" because they are less familiar and more explicit, but in fact they are no more anthropomorphic than the conventional primatological labels.

By applying the same system of semantic primitives to both human and animal communication we are not obliterating the profound, and indeed fundamental differences between the two but are rather making comparisons between them possible, just as by applying the same interpretive framework to verbal and non-verbal human communication we are making it possible for the two to be compared at all. We are also allowing for a relation of continuity and evolutionary development from animal to human, and from non-verbal to verbal communication.

Mandler blames the stagnation in research into non-verbal communication partly on Chomskian linguistics, with its innate "Language Acquisition Device", which supposedly sprang up in the human species *ex nihilo* (*ibid.*):

The virtual abandonment in the literature . . . of a discussion of gesture language is an embarrassment for both the psychology of language and the psychology of emotion. The former, in its "miracle" Chomskian and neo-Chomskian mode, yields no place for any extensive communication skills in humans prior to the emergence of spoken language; the latter has, until recently, ignored the communicative functions of expressive movements (consisting of facial, bodily, and vocal expression and gestures).

But although Chomskian linguistics, with its disregard for meaning and communication, has deterred both psychology and anthropology from looking to linguistics for insights or methodological inspiration (cf. Steiner 1992, Keesing 1994, Tuite 1998, Goddard forthcoming b),

there is more to modern linguistics than Chomskianism; and in fact the foundations for a “new psychology of language” (cf. Tomasello 1998) have already been laid.

Within the framework of this “new psychology of language” we can now ask questions which were entirely beyond the pale of the older paradigms; and this includes questions about the semantics of non-verbal communication.

## 11 The meaning of eyebrows drawn together

The English word *frown* is not a reliable way to identify a facial gesture with a universal or near-universal significance. The English expression *to frown upon* implies that someone (the “frowner”) thinks that someone else is doing something bad, and even the word *frown* by itself may imply more than any particular facial gesture would do. (Some dictionaries of English, e.g. The *Longman Dictionary of the English Language* (LDOTEL 1984), attribute to the word *frown* two meanings, one more general and one restricted to “displeasure”.) In what follows, I will avoid this word as far as possible and I will speak instead of the gesture of drawing one’s eyebrows together, regardless of what feelings or thoughts appear to be conveyed by it in any given case and regardless of anything else that may or may not happen in the person’s face – for example, of whether the eyebrows are lowered or raised at the same time. (Although, as mentioned earlier, we can feel ourselves raising our eyebrows, we can’t feel ourselves lowering them; on the other hand, we *can* feel ourselves drawing them together. It is the drawing together of the eyebrows, then, not their lowering, which has an experiential basis.)

The over-all meaning of each facial configuration depends of course on all its components, and, arguably, on the interaction between the components as well, but in each case it should be at least compatible with the meaning that we wish to attribute to a particular facial gesture (e.g. the “*frown*”) as such.

For example, Ekman and Friesen (1975) link the gesture of drawing one’s eyebrows together not only with what they call “the anger brow” (“the eyebrows are drawn down and together”, p. 82), but also with what they call “the fear brow”, and (optionally) with what they call “the sadness brow”. In “the fear brow”, they say, “the eyebrows are raised and drawn together” (p. 50), whereas in “the sadness brow”, “the inner corners of the eyes are raised and may be drawn together” (p. 117). If we wish to isolate the likely meaning of the gesture of drawing one’s eyebrows together as such, we have to try to come up with something that would fit Ekman and Friesen’s “fear brow” and “knitted-brow–sadness-brow” as well as their “anger brow”, and all

the other facial contexts in which the gesture of drawing one's eyebrows together may occur.

Many researchers have speculated about the meaning of a "frown" using the English word *frown* but without explaining clearly what exactly they meant by it. I presume that in most cases they, too, meant the gesture of drawing one's eyebrows together, but it is often not clear whether they didn't have something else in mind as well (in particular, the lowering of the eyebrows). Be this as it may, the answers they have come up with appear to suggest that some basic intuitions about the gesture of drawing one's eyebrows together are shared. Since, however, the way these intuitions are expressed differs from writer to writer, it is never quite clear whether, or to what extent, these differences represent genuine disagreement, since the interpretive hypotheses are usually not formulated in a way which would facilitate comparison.

Darwin considered what he called "frowning" an expression "of something difficult or displeasing encountered in a train of thought or in action" (1955[1872]: 222). He seems to have been the first scholar who linked the "frown" with the notion of "obstacle": "A man may be absorbed in the deepest thought, and his brow will remain smooth until he encounters some *obstacle* [emphasis added] in his train of reasoning, or is interrupted by some disturbance, and then a frown passes over his brow". The "obstacle" in the course of an action is illustrated as follows: "a man in doing even so trifling a thing as pulling on a boot frowns if he finds it too tight" (p. 221).

Darwin (p. 220) also quoted, with apparent approval, the idea of an earlier author, Charles Bell, that the muscle chiefly responsible for the effect of "frowning", that is, the so-called corrugator supercilii, "knits the eyebrows with an energetic effort, which unaccountably, but irresistibly, conveys the idea of mind".

A century later, Scherer (1992) "translated Darwin's observations into a proposal that the eyebrow frown is associated with the perception of some type of discrepancy between one's needs or goals and one's actual circumstances" (Smith and Scott 1997: 239). Others apparently understood Darwin differently: "In contrast, Smith (1989) interpreted Darwin's statements as implying that the frown was associated with anticipating the need to expend effort to cope with one's situation" (Smith and Scott, *ibid.*)

In the last decade or so, however, "frowning" has become increasingly strongly linked with the notion of "obstacle", apparently at the expense of the notion of "effort"; and "obstacle" has been increasingly interpreted in terms of "goal obstacles", "goal blockage", or "goal discrepancies".

Thus, Smith and Scott (1997: 241) report that "follow-up analyses

suggested the eyebrow frown is more closely related to perceived goal obstacles than to anticipated effort, thereby supporting Scherer's (1984) interpretation of meaning of this component over Smith's (1989) . . . A series of regression analyses indicated that the relation between goal obstacles and eyebrow frown was more direct than that between anticipated effort and the eyebrow frown". Smith and Scott (1997: 242) also report that this result, favouring "obstacle" rather than "effort" as a key to the interpretation of a "frown", was also replicated in a later study by Pope and Smith (1994). "In this study, no evidence was obtained for a relation between anticipated effort and the eyebrow frown, but brow region activity was found to be positively correlated with perceived goal obstacles and goal discrepancies and negatively correlated with subjective pleasantness".

But while the notion of "obstacle" appears to be currently favoured over the notion of "effort", the key interpretive notions keep shifting and forming new alliances: what is the difference between "goal obstacles" and "goal discrepancies"? or between "goal discrepancies" and "need-goal discrepancies" (Smith and Scott 1997: 242)? Or between all of those and Scherer's (1992: 162) "lack of goal conductiveness" or Ortony and Turner's (1990: 321–2) "goal blockage"?

As I have suggested in an earlier discussion of the semantics of drawn-together eyebrows (Wierzbicka 1993b), to clarify the confusion surrounding this problem we have to abandon complex and shifting terms and phrases like "goal discrepancies", "goal obstacles", or "goal blockages", and replace them with intuitively comprehensible combinations of self-explanatory conceptual primes such as WANT and DO. To begin with, what the frequently recurring terms "goal" and "obstacle" suggest is that the actor is seen as someone who "wants to do something". Speaking from an actor's, rather than an observer's, point of view we could formulate on this basis the following semantic component of a "frown" (as I, too, called this gesture in my earlier work):

(a) I want to do something now

The wide-spread use of terms like "obstacle" and "blockage" in the discussions of "frowns" suggests, in addition, some negative component along the lines of

(b) I think I can't do it

(I am not positing component (b) as valid, but showing how it could be phrased.) If we were to agree with Ortony and Turner (1990) that the "obstacles" or "blockages" suggested by a "frown" have to be

“unexpected” we would need to propose some further component along the lines of

(c) I didn’t think this would happen

(Again, I am not positing component (c) as valid, but showing how it could be phrased.)

Semantic components such as (a), (b), and (c) above may or may not be correct as a representation of the perceived meaning of a “frown”, but they have the advantage of being sufficiently clear and explicit to be able to be tested in a variety of contexts; and such testing across a variety of contexts is absolutely necessary if the invariant meaning of a “frown” is to be discovered and clearly identified. Components such as (a), (b), and (c) can also be tested cross-linguistically, for unlike “goal discrepancies” or “goal blockages” they are readily translatable into any language whatsoever.

From this point of view, the wide-spread practice of discussing “frowns” in connection with “anger” is unfortunate, for first, it makes cross-cultural testing impossible, and second, it brings to mind an “angry frown” rather than a whole range of possible “frowns” and possible experiential contexts in which those “frowns” may occur. In fact, I would suggest that the concentration on “goals”, “obstacles”, and “blockages” in the discussions of “frowns” may be skewed towards “angry frowns” or “frustrated frowns” instead of being focussed on invariant (“dissociable”) semantic components of drawn-together eyebrows as such. Consider, for example, the following discussion of “frowns”, “goals”, and “blockages” in Ortony and Turner (1990:321–2):

Consider first the furrowed brow that plays such a large role in the prototypical expression of anger. This component of the anger expression seems to reflect not anger per se, but a mental state in which the person is conscious of being unable to attain a goal, due to some unexpected blockage. This interpretation is compatible with the evidence that a frown often accompanies states such as frustration, puzzlement, concentrated attention to a problem, a difficulty encountered in a task, and so on . . . The reason a frown is part of the prototypical anger expression might therefore be that one of the common components of the eliciting conditions of this emotion is the frustration of an attempt to attain a goal: One is frustrated by (and angry at) the car that refuses to start or a person who stands in the way of what one wants. Recently, C. A. Smith (1989) reported empirical evidence for the connection between the perception of an obstacle (goal blockage) and the frown. (pp. 321–2)

In my earlier discussion of “frowns” (Wierzbicka 1993b) I took as my primary point of reference Ortony and Turner’s formulation: “a mental

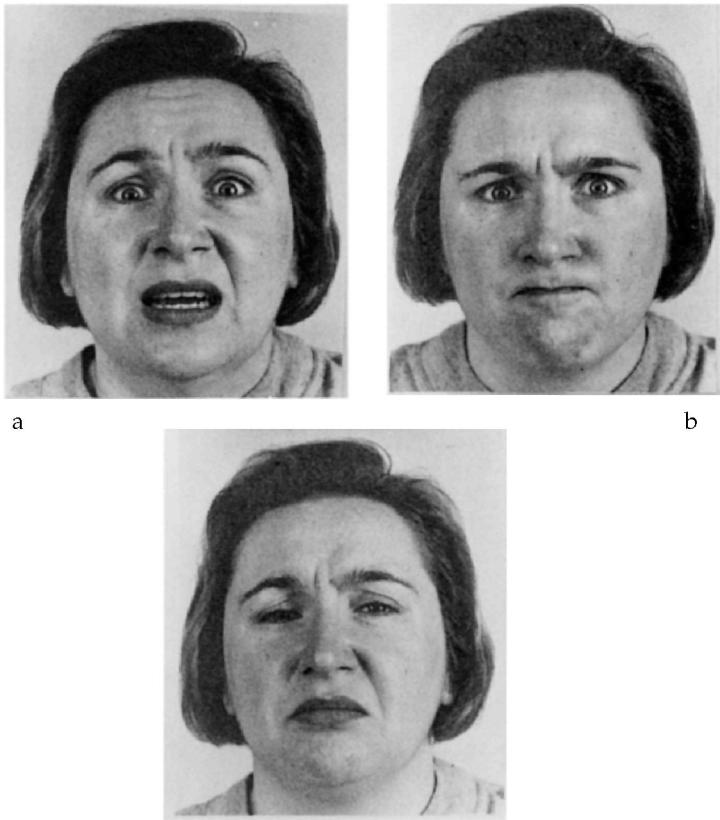


Figure 3

c

state in which the person is conscious of being unable to attain a goal, due to some unexpected blockage"; and I suggested a formulation in the form of the three components: (a) I want to do something (now); (b) I think I can't do it; and (c) I didn't think this would happen (as given above). To simplify further discussion, let us now discount, straight away, component (c), in recognition of the fact that the "target" or occasion of a "frown" does not have to be "unexpected". As noted by Darwin, stutterers frequently "frown" in speaking, and yet the "obstacles" they encounter are anything but unexpected.

But is it true that the other two hypothetical components, (a) and (b), are compatible with all cases of drawn-together eyebrows? Consider, for example, the three photographs in figure 3 (from Russell 1997), in which the gesture of drawing one's eyebrows together occurs in different environments: A. in combination with raised eyebrows, wide-open

eyes, and semi-open mouth; B. in combination with lowered eyebrows and compressed lips; and C. in combination with semi-closed eyes and down-turned corners of the mouth. I would argue that of these three faces at least one, face B, doesn't convey the impression that "I want to do something and I think I can't do it": on the contrary, face B appears to suggest that "I want to do something and am determined to do it".

When looking for an invariant meaning which can be attributed to *all* instances of drawing one's eyes together (regardless of context), the starting point should probably be the iconic basis of a "frown" discussed earlier, with its apparent double message: "I'm thinking now (about something)" and "I want to do something now". These two components seem consistent with the expressions A, B, and C, as well as all other pictorial representations of, or verbal references to, "knitted eyebrows". As Charles Bell (quoted earlier) put it, the "knitted eyebrows irresistibly convey the idea of mind", or in my terms, the idea of "thinking" ("I'm thinking now"). Furthermore, the apparent "effort" displayed in the deliberate action of drawing one's eyebrows close together "irresistibly" conveys the idea that "I want to do something now", even if, as in the case of face A, I don't know what I can do, if anything, or, as in the case of face C, I am highly ambivalent about doing anything (e.g. I want to throw out that rotten piece of meat but I feel disgusted at the thought of actually touching it).

But while the two components of "thinking" and "wanting to do something" appear to be entirely plausible as the invariant core of drawn-together eyebrows, something seems to be still missing: the intuitions behind the recurring terms like "discrepancy", "obstacle", or "blockage" remain unaccounted for. To account for these intuitions I propose the following hypothesis: in the meaning of drawn-together eyebrows the component "I want to do something now" co-occurs with the "discrepant" component "I know I am not doing it now", arguably also rooted in the apparent logic of the facial behaviour itself.

For we can think about it like this: when I am trying to draw my eyebrows together, my face conveys the impression that, on the one hand, I want to do something (draw my eyebrows so that they are together) and, on the other hand, I'm conscious of not quite doing it (at least not yet): "I know I'm not doing it now" (my eyebrows are not fully "together", after all).

This is, then, I suggest, the "facial logic" which enables observers to attribute to "knitted eyebrows" the two "discrepant" semantic components "I want to do something now" and "I know I'm not doing it now".

Once again, we must resist the temptation of positing the component "I think I can't do it" (what I want to do), because this would be

incompatible with the “frown” of a person determined to do something (as in the face B). We must also resist the temptation of adding to the formula the word *yet* (“I know I’m not doing it yet”), for this wouldn’t be consistent with faces like A, where there is no expectation that the “discrepancy” will be resolved. It would appear, however, that in every case (including the faces A, B, and C above) the “frown” is compatible not only with the thought “I want to do something” but also with the thought “I know I’m not doing it now”. If I am frightened or worried then maybe I can’t do what I want to do (hence the idea of “obstacle” and “goal blockage”); but if I am angry and determined to act I may still be aware that I’m not doing (yet) what I want to do. (In fact, it would seem strange to keep the “frown” on once I am beating someone up). Similarly, if I am “frowning” while trying to thread a needle, or to pull on a tight boot (Darwin’s examples), my attitude doesn’t have to be one of “I can’t do it”, but it may well be one of “I know I’m not doing it now”.

In the final resort, then, Scherer’s notion of “discrepancy” appears to be more apposite to the interpretation of *all* “frowns” than the idea of an “obstacle” or a “goal blockage”. For this idea to be truly explanatory, however, it has to be made clear in what this “discrepancy” consists; and I am suggesting that this can be articulated in the form of the two semantic components “I want to do something now” and “I know I am not doing it now”.<sup>10</sup>

Ekman (1989: 157) has suggested that “Brow lowering acts as a sunshade, decreasing the light coming in from the superior visual field” and that it also ‘helps to protect the eyeball from blows, and also may enhance focal illumination by diminishing background light’. I would suggest a different perspective on the gesture. First, I see the drawing of the eyebrows together, and not their lowering, as the most salient (and experientially real) aspect of the gesture and as a key to its semantic interpretation; and second, I propose a semantic invariant which seeks to explain the whole range of this gesture’s use, including “concentration” and “worry” as well as “anger”. “Concentration” and “worry” do not involve protecting one’s eyeballs from either sunlight or from blows; but they, too, can be explained in terms of the three components proposed here: “I’m thinking now”, “I want to do something”, and “I know I’m not doing it now”.

## 12 The meaning of “raised eyebrows”

In their discussions of the meaning of “raised eyebrows” scholars usually follow one of two main tracks: they either link this gesture with “surprise” or they talk, instead, of something that they call “attentional

activity''. To start with the latter approach, Smith and Scott (1997: 239) wrote recently about the raising of the eyebrows as follows:

there is a general consensus that raising the eyebrows and raising the upper eyelids are both associated with something related to attentional activity. However, individual investigators differ in the specific meanings they associate with these actions. Darwin [1985(1872)] associates both activities with attentional activity, whereas Scherer (1984) associates them with the perception of novelty in the environment. Smith (1989), in contrast, associates raising the upper eyelid with attentional activity and raising the eyebrows with uncertainty about some aspect(s) of one's circumstances. Finally, Frijda (1969) associates raising the upper eyelid with attentional activity but does not address the significance of the raised eyelids.

The problem with this approach is that it is not quite clear what precisely is meant by "attentional activity", and since this expression does not belong to ordinary language we can't use our ordinary linguistic intuition to interpret what exactly the writers really have in mind. Of course, they mean something to do with "attention", that much is clear, but unfortunately no more than that. (Cf. Darwin (1955[1872]: 278: "Attention is shown by the eyebrows being slightly raised.")

From the point of view of intelligibility, the other, alternative approach to the interpretation of "raised eyebrows" is more promising. For example, when Peck (1987: 101) states that "raised eyebrows have always been and will continue to be synonymous with surprise itself" we may agree or disagree with him, but at least we know what he means, because he is using an ordinary English word ("surprise") in its ordinary, everyday meaning.

But clearly, statements such as Peck's, while intelligible, cannot be regarded as fully satisfactory either, given that, as he in fact noted himself, "raised brows can be a part of many different attitudes" (*ibid.*). For example, Peck points out, the eyebrows can be raised "in an effort to recall" or "as an act of empathy". (And of course many other languages don't have a word for "surprise"; cf. e.g. Goddard 1997b.)

Ekman and Friesen (1975), too, linked the gesture of raising one's eyebrows with "surprise", so much so that they invented the term "the surprise brow", linking it, above all, with raised eyebrows. The section entitled "the surprise brow" in their book starts as follows:

The eyebrows appear curved and high . . . The skin below the brow has been stretched by the lifting of the brow, and is more visible than usual . . . The lifting of the eyebrows produces long horizontal wrinkles across the forehead . . . Not everyone shows these wrinkles. Most young children do not show them, even when the eyebrows are raised, and some adults do not either. (pp. 37, 39)

Since the horizontal wrinkles may or may not accompany the raising

of the eyebrows they are clearly not an inherent part of the meaningful gesture in question: the meaning is conveyed by the raising of the eyebrows as such. Whether or not the eyebrows appear "curved" is probably not essential either; and neither is the fact (of which most ordinary people would not even be aware) that "the skin below the brow has been stretched by the lifting". What matters is the action of moving one's eyebrows upward (like a person does who moves her eyebrows to see more). The resulting wrinkles, the stretched skin, and the shape of the eyebrows, are all inessential.

What, then, is the meaning of this gesture, if we reject the exaggerated and inaccurate claim that it is "synonymous with surprise itself"?

Ekman and Friesen (1975), who, as we have seen, also link this gesture with "surprise", have nonetheless noted that when this gesture is not accompanied by other facial features like "wide-open eyes and dropped jaw" it may convey something other than surprise:

When the brow is held in place for a few seconds or more, this is an *emblem* which means doubt or questioning . . . often this emblem will express mock doubt, the listener's incredulity or amazement about what she has just heard . . . If the surprise brow is joined by a disgust mouth, then the meaning of the emblem changes slightly to sceptical disbelief. (p. 39)

Trying to isolate the semantic invariant behind disparate notions such as "surprise", "doubt", "incredulity", "disbelief", and "interest" (the latter not mentioned in the quote above but often also linked with the raising of the eyebrows, cf. e.g. Izard 1991), we should, I suggest, let ourselves be guided once again by the "logic" of the facial behaviour itself. The act of moving one's eyebrows at all conveys, I believe, the idea that "I'm thinking now" and so I would assign this component to the gesture of "raising the eyebrows" as much as to the gesture of drawing one's eyebrows together. In addition, the "raising of the eyebrows" suggests, ironically, a desire "to see more". It is not that the gesture of "raising one's eyebrows" is *motivated* by a person's desire to see more, but rather, that the person raising her eyebrows is moving them "like a person does who wants to see more".

Ekman (1989: 157) remarks that "All those who have written about the origin of brow raising have noted that this action increases the visual input, by increasing the superior visual field". To avoid misunderstanding, let me stress that in contrast to those earlier studies I am not talking about the *origin* of brow raising but about its *meaning*; and the meaning posited for the gesture is not "I want to see more", but rather, "I want to know more (about this)". At the same time, however, I am suggesting that an action increasing a person's visual field can serve as a semiotic basis for the message "I want to know more (about this)".

Technically, the link between the raising of the eyes and an increased field of vision involves also the raising of the upper lids: the movement of the eyebrows pulls also the eyelids upwards, thus widening the exposed part of the eye and increasing the field of vision (cf. Peck 1987: 96). "Ordinary people", of course, need not be aware of the role of the eyelids, but the description of the gesture in terms of "moving one's eyebrows upward like a person does who moves her eyebrows to see more" is well within the scope of "naïve" folk-psychology.

As mentioned earlier, the apparent facial message suggested by the raising of the eyebrows, that is "I want to see more (above me)", translates naturally into a more abstract message "I want to know more" (especially given the concurrent message "I'm thinking now"), and thus provides a natural iconic basis for the interpretation "I want to know more (about this)".

The message "I want to know more (about it)" could explain the links between raised eyebrows and questions, doubt, incredulity, disbelief, puzzlement, interest, surprise, amazement, and so on. Depending on other aspects of the facial behaviour, and depending on the situation, the raising of the eyebrows can be interpreted in any one of these different ways, but the underlying message "I'm thinking now, I want to know more (about this)" is clearly compatible with them all. It is also clearly compatible with Peck's observation quoted earlier that eyebrows can be raised "in an effort to recall" or "as an act of empathy". When I'm trying to recall something I'm clearly thinking about something and I want to know more (than I do now); and when I'm empathizing with someone it is very likely that I'm thinking about their situation, and their emotions, and trying to know (understand) more about it.

The proposed component "I want to know more (about this)" is also highly consistent with the finding that in research done with babies, eyebrow raising "was typically related to infants raising their heads and/or eyes to gaze at an object presented above their line of sight" (Messinger, Fogel, and Dickson et al. 1997: 206).<sup>11</sup>

Is this the whole meaning of the gesture, then? Or are there any other components? I suspect that there may be one more component, which would explain the tendency of the raised eyebrows to be linked with "novelty" (cf. Scherer 1984), "unexpectedness", and the occurrence of some external stimulus. It is not an accident, I think, that, as pointed out by Ekman and Friesen (1975), the raising of the eyebrows often occurs as a response to something someone else has just said (whereas "frowning" can also easily occur in solitude, when one is simply concentrating on a task, without any triggering external events; cf. Cacioppo, Berntson, and Klein 1992).

The third hypothetical semantic component for the raised eyebrows

is this: "I know something now". In a sense, such a component is already implied by that proposed earlier ("I want to know more"). The two components: "I know something now – I want to know more" form a logical sequence. But the reference to "now" invites the inference that the knowledge which I have is very recent, that is, that something has just happened, and that this is why "I want to know more (about this)". At the same time, the proposed formula ("I know something now") is sufficiently vague as not to exclude less typical situations, such as Peck's "effort to recall": when I'm trying to recall something I must have some bit of knowledge in my mind which serves as a foothold in my effort to "know more" (by dragging something out from the "back of my mind", that is, by thinking). This is, then, the full meaning proposed for the "raising of the eyebrows":

I know something now  
 I want to know more (about this)  
 I'm thinking now

This formula is not inconsistent with interpretations relying on the technical expression "attentional activity"; it is, however, much clearer and less "scientific" and therefore more verifiable. It is also phrased from the "actor's", rather than an "observer's", point of view. For whatever the gesture of raising one's eyebrows may mean, presumably nobody would argue that it means "I am now engaged in an attentional activity". It can be argued, however, that it conveys first-person meanings like those given in the formula above.

Importantly, simple sentences of this kind, which are phrased in universal concepts, can be easily translated into any other language and can be tested with native speakers. For example, Nick Enfield (personal communication) has provided the following word-for-word Lao translation (while commenting that it would be impossible to render "attentional activity" in Lao):

kuu	huu	'an-daj-'an-nïng	diaw-nii
I	KNOW	SOMETHING	NOW
kuu	jaak	huu ('an-daj-'an-nïng)	'iik (kiaw-kap 'an-nii)
I	WANT KNOW (SOMETHING)	MORE (ABOUT	THING-THIS)
kuu	kamlang	khït	diaw-nii
I	PROGRESSIVE:MARKER	THINK	NOW

The use of untranslatable technical English expressions such as "attentional activity" to represent universal human meanings can be seen as an

instance of what Goddard (forthcoming a) calls “terminological ethnocentrism”. By contrast, the use of such simple, intuitively intelligible, readily translatable, and actor-oriented formulae phrased in universal human concepts allows us to avoid this form of ethnocentrism, as well as facilitating comparisons between the meanings of different gestures. In this particular case the use of such formulae allows us also to differentiate and compare the meanings of two related but non-synonymous gestures, often subsumed in the literature under one technical label “attentional activity”, that is, of the gesture of raising one’s eyebrows and the gesture of opening one’s eyes wide, to which I will now turn.

### 13 The meaning of the “wide open eyes” (with immobile eyebrows)

This gesture has two variants which are physically and semantically quite different: one can open one’s eyes wide while at the same time raising one’s eyebrows and one can open one’s eyes wide without raising one’s eyebrows.

If I open my eyes wide and raise my eyebrows at the same time, the two events will, I think, be normally interpreted as forming a unitary event. In fact, it seems virtually impossible to raise one’s eyebrows without opening one’s eyes wide at the same time: the two go naturally together. If the wide open eyes mean anything in this case it can only be “I want to know more”, that is to say, they merely reinforce one of the semantic components of the eyebrow gesture.

Opening the eyes wide while at the same time keeping one’s eyebrows immobile, conveys a quite different message.

To begin with, to open one’s eyes wide without at the same time raising one’s eyebrows is unlikely to be deliberate, rather it is something that might *happen to* one. As noted by Darwin (1955[1872]: 281), it is actually quite difficult to open one’s eyes wide without at the same time raising one’s eyebrows, and the “unnatural” combination of wide open eyes with immobile eyebrows conveys a message of its own. The expected position of the eyebrows would be to have them raised, and their unexpected (under the circumstances) immobility appears to add to the message another component: “I can’t do anything now”, that is to say, “I can’t even move my eyebrows” (so powerless am I at the moment).

The wide open eyes again suggest that, first, “I know something now” and second, “I want to know more (about this)”; at the same time, however, the strangely immobile (as if paralysed) eyebrows send the message “I can’t do anything now”. Given this combination of components it is hardly surprising that the facial behaviour in question is likely to be interpreted in terms of “extreme fear” (or even “horror”), as



Figure 4

in Ekman's (1975) photograph, reproduced in figure 4.

As mentioned in the section on the "raising of the eyebrows", Ekman and Friesen (1975: 50) have described what they called "the fear brow" as "raised" rather than "immobile" ("the eyebrows appear raised and straightened"). As for what they call "the fear eye", they described it in the following terms: "The upper eyelid is raised, exposing sclera [i.e. the whites], and the lower eyelid is tensed and drawn up" (p. 63). Thus, apart from various minor differences described in somewhat technical terms, Ekman and Friesen (1975) attributed the raising of the eyebrows and the wide open eyes to both "surprise" and "fear" (as did Darwin 1955[1872]: 289). At the same time, however, they noted that a face expressing, as they put it, "a frozen, horrified fear" failed to show any raising of the eyebrows. They commented on this face as follows: "Interestingly, the intensity of the expression of fear is not reduced by the lack of involvement of the brow (it is a neutral brow). Instead, the absence of brow involvement causes the expression to appear immobilized or frozen" (p. 60). These comments support, I think, the interpretation proposed here: the references to a "frozen", "immobilized" expression are fully consistent with the semantic component "I can't do anything now".

Consider from this point of view Bruno Epple's painting of a child's funeral, reproduced on the cover of this book. People could argue whether the faces shown in the centre of this picture (with the whites of

the eyes showing above the irises) express “horror”, “disbelief”, “incomprehension”, “bewilderment”, or something else. All these interpretations, however, would be consistent with the three components posited here: “I know something now” (presumably, “this little child is dead”), “I want to know more about this” (presumably, “I want to understand how things like this can happen”), and “I can’t do anything now” (presumably, “I can’t do anything about it now”).

The reference to the whites of the eyes showing above the irises in the last paragraph requires a comment. I do not think that it is essential to the gesture of opening one’s eyes wide that the whites of the eyes should be showing above the irises, and if they do show observers may not even be aware of this. In a still picture or photograph, however, it is impossible to distinguish eyes which are naturally big from eyes which seem big because they are wide open at the time, and so the whites above the irises can serve as a way of signalling to the viewer that the eyes are wide open.

Just as raising the eyebrows tends to be accompanied by the appearance of horizontal wrinkles in the forehead, so the gesture of “opening one’s eyes wide *without* raising one’s eyebrows” tends to be accompanied by the showing of the whites above the irises. But just as the semiotic value of the raised eyebrows doesn’t seem to depend on the presence of the wrinkles, so the semiotic value of the wide open eyes unaccompanied by the raising of the eyebrows does not seem to depend on the visibility of the whites above the irises.

#### **14 The meaning of a down-turned mouth**

In a section entitled “On the depression of the corners of the mouth” Darwin (1955[1872]: 191) wrote: “this action is affected by the depressores anguli oris . . . The expression of low spirits, grief or dejection, due to the contraction of this muscle, has been noticed by everyone who has written on the subject.” Darwin commented that in children the expression in question is linked with crying: “Sometimes, when they are struggling against a crying fit, the outline of the mouth is curved in so exaggerated a manner as to be like a horseshoe; and the expression of misery then becomes a ludicrous caricature” (p. 192).

These comments are illustrated in Darwin’s book with the two photographs reproduced in figure 5. I have suggested that a mouth with its corners turned downward suggests unambiguously that “I feel something bad now”. A semantic description of this kind, however, is clearly insufficient, because there are “bad feelings” (such as, for example, “rage”) which cannot be expressed in this way, and because there are other facial gestures (such as, for example, a wrinkled nose) which also



Figure 5

convey some “bad feeling” but which nonetheless are not synonymous with a down-turned mouth.

Ekman and Friesen (1975) link turning down the corners of the mouth predominantly with “sadness”, but they make this interpretation contingent on the appearance of other parts of the face. In the section entitled “the sadness mouth” they refer to two photographs (their figures 53A and 53B) as follows:

In Figure 53A and 53B Patricia shows two sadness mouths. The mouth that is most often confused with it, a disgust-contempt mouth, is shown in 53C . . . In Figure 53A Patricia shows the corners of the lips down, in Figure 53B she shows the loose-lip characteristic of the mouth when it is trembling . . . When sadness is shown only in the mouth (no involvement of the eyelids or forehead), the facial expression is ambiguous . . . The expression in 53A might be a pout, but this is not certain. The message in 53B is completely ambiguous; it might be mild distress, defiance, or anything.

According to this account, if the corners of the mouth are down, this may – but doesn’t have to – suggest “sadness”. It is also interesting to note that in the series of faces included in Ekman (1975) the only one with clearly down-turned corners of the mouth is labelled by the author as expressing “disgust”. (Note also the down-turned mouth in the “disgusted” photograph C in section 10.) Darwin (1955[1872]: 257), too, saw the downward movement of the corners of the mouth as typical of “disgust”, linking it with the “movements around the mouth identical with those preparatory to the act of vomiting”. But if a down-turned mouth can be linked with emotions as different as “sadness” and “disgust” – but not, for example, “rage” – what is the constant and invariant meaning of this gesture, beyond the obvious “I feel something bad now”?

A semantic component which would allow interpretations in terms of something like “sadness” as well as “disgust”, and yet exclude an interpretation in terms of something like “anger” or “rage”, can be formulated as “I know I can’t do anything”. Speaking loosely, one could call this a “passive” or “withdrawn” attitude: a person with down-turned corners of the mouth does not look like someone who is about to fight, to act, or even to speak.

In fact, it would be difficult to speak with the corners of one’s mouth turned down, because it is virtually impossible to open one’s mouth in this position. Up-turned corners of the mouth (“smiling”) do not prevent a person from opening her mouth and speaking, and in fact a full, prototypical “smile” involves a partially open mouth, with the teeth showing. By contrast, it is difficult to imagine a face with the corners of the mouth turned down and with the teeth showing. Thus, a mouth

which looks like an “upside-down” smile has to be a closed mouth, and so a mouth which can’t speak (although, as noted by Darwin, it could still cry).

Of course a person with tightly closed lips (to be discussed in the next section) cannot speak either, but the message of the tightly closed lips is “I don’t want to say anything” rather than “I can’t say anything”, and this is linked with the voluntary (almost deliberate) character of the gesture in question. By contrast, the gesture of turning down the corners of one’s lips doesn’t have to be voluntary, so there is nothing in this gesture to suggest that “I want to do something” or that I *deliberately* “don’t want to say anything” (inferred from “I can’t say anything”). Rather, the message seems to be “I know that I can’t do anything”. I would propose, then, the following semantic interpretation for the gesture of turning down the corners of one’s mouth:

I feel something bad now  
I know I can’t do anything

This, of course, is just the invariant skeleton: the details of the interpretation are to be filled in by the context (facial, verbal, and situational). But this invariant skeleton is compatible both with emotions like “sadness” and with emotions like “disgust”, whilst not being compatible with “action-oriented” emotions and attitudes such as “anger”, “rage”, or “determination”. It is also highly consistent with the idea of helpless crying.

### 15 The meaning of tightly pressed lips

As noted earlier, Ekman and Friesen (1975: 83) saw the gesture of tightly pressing one’s lips together as a manifestation of “anger”, and they linked it with “physical violence” and with attempts to “control a verbal, shouting anger”.

Other writers on the subject have pointed out, however, that the facial gesture in question is not restricted to anger, and supported Darwin’s idea that it is linked with “determination” or “resolve”. Thus, Ortony and Turner (1990: 322) wrote:

Another common, and related, component of anger is a determination or resolve, usually to take some unpleasant action, typically not aggression against the instigator, but perhaps action to remove the source of the goal blockage. As Darwin (1955[1872]) suggested, determination appears to be expressed in the face by the compression of the lips (Frijda, 1986, offered the related and interesting suggestion that this response may reflect an attempt at self-control). Again, this com-

ponent of facial expression is dissociable; it is not essential to anger, nor limited to it, and seems to appear only when the appropriate mental state occurs. (p. 322)

Evidently, Ortony and Turner believe that Darwin's and Frijda's analyses have a common core, and, although they don't say expressly what this common core is, they appear to support both the idea of "determination" and the idea of "self-control".

Following a similar line of thought, but seeking to portray the actor's perspective and to do so in simple and universal concepts, in my earlier work on this topic (Wierzbicka 1993b) I proposed for "compressed lips" the following message:

- (a) I want to do something now
- (b) I know: if I do it I can feel something bad
- (c) I don't want not to do it because of this

As I commented at the time, this formula is consistent with Ortony and Turner's analysis. The references to an intended action (component (a)) and to an anticipated "bad feeling" (component (b)) are consistent with Ortony and Turner's reference to an "unpleasant action"; the combination of components (a), (b), and (c) suggests something like "determination"; and the combination of (b) and (c) is consistent with the idea of "an attempt at self-control".

Looking at this formula several years on, I would want, above all, to seek a possible semiotic basis for the proposed semantic components, and, if necessary, to modify these components so that the final formula rests on an explicitly formulated, non-arbitrary basis.

To start with component (a) ("I want to do something now"), I believe it can be justified with reference to the deliberate action of the lips. When I press my lips tightly together I'm doing something with my mouth because I want to, and this deliberate action provides a clear iconic basis for the component "I want to do something now". In this respect (but only in this respect), the deliberate action of pressing one's lips together is "synonymous" with the deliberate action of drawing one's eyebrows together, to which I have also attributed the semantic component "I want to do something now".

Except for minor details, component (c) also appears to be justifiable in terms of the logic of "facial behaviour". The tight pressing of the lips together clearly suggests that "I don't want to say anything", and also that I don't want to say anything *despite* the fact that there may seem to be strong reasons for opening my mouth and saying something.

What is perhaps the most difficult thing to establish is the exact nature of the intermediate component (b), and the semiotic basis for this

component, but we could try the following path: the deliberate action of the mouth results in an uncomfortable pressure on the lips (that is, "I feel something bad because of this", i.e. because of what I want to do with my mouth); it could be expected, therefore, that I might relent and say something. In fact, it is clear what exactly I could be expected to say: "I will not do it, after all (because I don't want to feel something bad)"; but the maintenance of the tightly shut mouth denies these expectations, as if sending the message "I'm not going to say this" (i.e. "I'm not going to say that I'm not going to do it, after all"). Hence the conveyed message (component (c)): "I don't want not to do it because of this".

It seems to me that this explanation is viable, and so I am inclined to stand by the interpretation proposed in my 1993b article, including component (b): "I know: if I do it I can feel something bad". This is compatible with Darwin's, Frijda's, and Ortony and Turner's idea of "determination". Needless to say, the message of the "compressed lips" is not about the action of the mouth or the sensation in the lips as such, but the "bodily knowledge" associated with the gesture provides a comprehensible experiential basis for the proposed semantic interpretation.

## 16 Conclusion: the what, the how, and the why in the reading of human faces

Ekman (1975), assuming that the universality of human facial expressions of "the primary emotions" (i.e. "happiness", "fear", "surprise", "anger", "disgust/contempt", and "sadness") had been established, puzzled about the reasons for this universality: "Of course, we still do not know *why* these expressions are universal, or *why* these particular facial movements are associated with particular emotions. Why don't we press our lips tightly together and frown when we're happy?" (p. 39).

Ekman's view was that "all human beings share the same neural programming, which links facial muscles with particular emotions", and he looked to neurophysiology for the ultimate explanation. I believe, however, that we can at least put forward some meaningful hypotheses on this subject if we look at human faces from the point of view of human understanding rather than neural programming, that is to say, if we adopt a semiotic and experiential rather than a neurophysiological perspective.

Human faces send messages, and these messages must be decodable. Some messages can be decoded on the basis of local conventions, but those (if any) which are universally interpretable may have a "natural", i.e. iconic or indexical, basis (even if they are also genetically "hard-



Figure 6

wired"). From an experiential and semiotic point of view it does make sense that facial gestures which are deliberate and which require an effort, such as a "frown" or tightly pressed lips, can convey a decodable message "I want to do something", but not a "happy" message such as "I don't want anything right now, I feel good as it is". Likewise, it does make sense that facial movements which feel uncomfortable to the actor, such as contortions or grimaces of the mouth, wrinkling of the nose, or hard pressed lips, can convey a decodable message "I feel something bad now" but not "I feel something good now".

It also makes sense that a gesture like a "frown", which (as discussed in section 11) suggests, iconically, that "I want to do something now" and that "I know I'm not doing it now" (cf. the notion of "discrepancy") is compatible with interpretations in terms of "frustration", "worry", "anger", or "concentration", but not in terms of "happiness"; or that a facial gesture which suggests, iconically, that "I want to see more" lends itself to an interpretation in terms of "I want to know more" but not, for example, in terms of "I feel something good now".

As a final example, consider the appearance of the mouth in the "bared teeth, square mouth" photograph (figure 6), which according to Ekman (1975: 38) shows "anger". Is it really surprising that whatever else people might associate with this mouth (e.g. "murderous rage", "vicious aggression", "insanity", etc.) they would certainly not associate it with "happiness"? First, our own "muscular knowledge" tells us that if we wanted to imitate such an expression it would feel uncomfor-

able, so part of the decodable message could be "I feel something bad now", but certainly not "I feel something good now". Second, the bared upper teeth and the squarish shape of the mouth seem to suggest that the person in the photograph "wants to bite"; and the apparent message "I want to bite someone now" readily translates into a more general message "I want to do something bad to someone now".

I have not included this gesture, striking as it is, in the foregoing survey of meaningful and probably universal facial gestures because many observers seem to feel that it is rare and perhaps even lies beyond the realm of what is "normal" in human beings (in contrast to dogs). But the semiotic basis of this gesture is quite clear and it has been noted already by Darwin (1955[1872]: 240):

This retraction of the lips and uncovering of the teeth during paroxysms of rage, as if to bite the offender, is so remarkable, considering how seldom the teeth are used by men in fighting that I inquired from Dr. J. Crichton Browne whether the habit was common in the insane whose passions are unbridled. He informs me that he has repeatedly observed it both with the insane and idiotic.

Thus, by looking for a decodable meaning of individual facial gestures rather than for "distinctive patterns of autonomic nervous system (ANS) activity" linking (for reasons that aren't clear) global "emotions" (e.g. "happiness" or "anger") with global "facial expressions", we can not only isolate and describe but also, to some extent, explain some universal aspects of human facial behaviour.

Provine (1997: 173) closes his study of "yawns, laughs, smiles, tickles, and talking" with, as he puts it, "a caveat and a recommendation":

Language, a precision tool of the intellect, may not serve us as well in the realm of emotion, empathy, and intuition. It is useful to approach human behaviour in an objective manner, as if we were studying another species, ethnologists stalking not the rain forest but city sidewalks and shopping malls, with a fresh eye and naive curiosity that permits us to see the familiar in new ways.

My own recommendation would be just the opposite: if we really want to look at human faces with a fresh eye and see the familiar in new ways, we should *abandon* the old practice of approaching human behaviour "in an objective manner, as if we were studying another species", and approach it in the spirit of participant observation, trying to understand both our fellow human beings and ourselves on the basis of our shared human experience and our shared language, that is, the simple and "naive" language of universal human concepts such as FEEL, THINK, KNOW, AND WANT.