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5 **The Meaning of Expression: Views from Art and Other Sources**

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Abstract. Contemporary views on facial expression take for granted that there are some basic emotions that are manifested by a few typical facial expressions. During the last twenty years psychologists have tried to demonstrate the link between basic emotion and facial expression by carrying out experiments on recognition, in which people attribute a particular emotion to a particular facial expression.

Studies on recognition bear a striking similarity to those approaches to art, particularly painting and sculpture, in which the artist's main goal consists in trying to convey a particular emotion to the observer. Interestingly enough, the patterns of representation of emotional facial expression in most of the art available in museums, from antiquity up to the beginning of this century, do not follow the patterns of emotional facial expression outlined by contemporary studies on recognition of emotions. We believe that a considerable part of this systematic inconsistency can only be explained as the result of some important and profound misunderstandings about the concept of emotional expression in current psychology. In this chapter we address these misunderstandings by discussing current research in the psychology of emotion and examples from art and scientific research.

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5.1 Introduction

Since the beginnings of history, human beings have been concerned about the communication of intangible entities. An important set of intangible entities is constituted by psychological processes. Are psychological processes entities with their own independent existence? Psychologists would say that they are, but they have to come to terms with the lack of direct evidence of psychological events. Take, for example, “aggression”: in psychological terms, aggression cannot be defined as behavior that causes either moral or physical harm. The indiscreet but innocent remarks of a child can cause moral harm; someone who faints can cause physical harm to another person and so on. Psychologically, “aggression” is defined not by the physical, observable consequences of a particular behavior, but by the subject’s intention. People are aggressive or commit aggression if their intention is to harm others, even if they are unsuccessful. Unfortunately, “intention” is not an observable phenomenon. We can infer others’ intentions, and societies have developed complex institutions (e.g., penal systems) in order to detect and punish intentions when harm is caused to others.

No psychological process is a physical, observable event, and psychologists have to guess, on the basis of physical, observable events, the shape of non-physical, unobservable psychological phenomena.

However, if psychological phenomena cannot be observed, how can psychologists become aware of the existence of a particular phenomenon? The key to this problem is language. Psychologists’ starting point for the development of a particular psychological concept is everyday language. Psychologists study “thought”, “belief” or “desire” (hiding these common terms behind more respectable, academic labels, such as “cognition”, “representation” or “motivation”) because people, in their own cultures, claim that they have thoughts, beliefs or desires.

This starting point is fine as long as we are prepared to pay the price it bears. Building a scientific discipline following everyday language creates important tensions and problems.

One of these problems is the cultural relativity of a scientific discipline whose main concepts are taken from a cultural, arbitrary system of representation. Can psychologists aspire to developing universal laws? Or are their findings restricted to the language in which they think and talk about psychological “reality”? Research on emotion is one of the fields of research in which this problem is most salient.

Emotion is an elusive concept that even defies a consensual definition. For more than one hundred years [1, 2] researchers have tried to isolate the essence of emotions, their components and their behavioral manifestations, but we are still far from attaining agreement in this respect.

Why is emotion even more problematic than other psychological concepts? Because emotion belongs to a realm of phenomena –such as mood, affect, feeling–that are particularly opaque to language. People can talk about their (true or false) memories or they can describe (with varying degrees of success) what they are perceiving, but they find it difficult to describe the emotion they are feeling without recourse to a more or less clear label. Emotion challenges language, and human beings have had to craft allusive, connotative ways of describing the indescribable.

However, the opacity of emotions would not be such a problem were it not for a certain troubling feature: from a psychological point of view, “emotion” is synonymous with “important”. As Silvan Tomkins points out, important things cause emotion and emotion confers importance on things. Art, and particularly music and poetry, are important because

they are, somehow, describing or manipulating emotions. Other common linguistic resources, such as insults, have –apart from their pragmatic functions– the semantic function of connotatively expressing the importance of our own (negative) emotions while playing on others' emotions. Psychologists have tried to deal with the opacity of emotion language in many ways.

Interestingly, their search for a consensual definition of emotion bears a telling resemblance to the old philosophical discussion about the relationship between language and reality. As in philosophy, alternative solutions to the relationship between everyday talk about emotion and the concept of emotion are based on varying assumptions about the ontological status of emotion. All of these assumptions can be described as lying along a continuum between two extreme ontological perspectives. At one extreme, which could be labeled as Idealism (or Platonic realism), emotions are universal, real entities that can shape what people say about emotion but are independent of language. At the other end, which could be labeled as Nominalist, emotions are mere labels, i.e., words that lack a universal, real denotation, and summarize the sameness of some psychological events [3]. Psychological events labeled as emotion are specific and idiosyncratic; there are no universal realities such as emotions.

The study of the facial expression of emotion has been linked, over the last thirty years, to a rather radical, extreme Idealist position. Its assumptions have blinded psychologists to many aspects of facial expression that are extremely interesting and should be urgently considered. In this chapter we describe the evolution of facial expression within this Idealist approach, the main problems that arise from this view, and an alternative view on the facial expression of emotion that emphasizes (a) that facial expression is an icon, and (b) that facial behavior is an event. This approach to facial expression concludes that actual facial demonstrations of emotion are, in fact, better defined as the lack of those expressions usually attributed to emotion by current mainstream psychology.

5.2 Neo-Idealism in the study of the facial expression of emotion

From a philosophical point of view, the belief in universals is a basic feature of Idealism. Modern Idealism is also connected to Romanticism, a movement that rejects rationality and claims a role for emotions and the transcendental in the understanding of human beings. In our view, the search for universals in emotion must be discussed in relation to these intellectual doctrines.

The common use of words such as "Idealism" or "Romanticism" suggests an abstract, somewhat impractical way of approaching human actions. Nevertheless, Idealism and Romanticism have been, and probably still are, two of the most influential approaches to practical dilemmas of the last one hundred years, competing with the social sciences and, particularly, disciplines such as social psychology. Whereas social psychology emphasizes Situationism, as an a-historical tension between immediate situational constraints and cognitive construals [4], an Idealist and Romantic psychology has emphasized universalism as a dialectical relationship between transcendental collective or individual objective trends and subjective manifestations of these transcendental collective or supraindividual trends.

The Idealist and Romantic approaches have been a source of inspiration for remarkable achievements of modern art, but also for most of the political regimes that, throughout the twentieth century, considered human beings as disposable pieces in the attainment of "historical" destiny. In fact, for most of the twentieth century, art and literary criticism

tried to separate emotion from psychology in the public mind; one of the legacies of Romanticism was the popular assumption that psychologists should not study such intangible phenomena as love, happiness or hate. This attitude contrasts with the lasting prevalence of emotions in key social phenomena, such as politics (e.g., nationalist doctrines, terrorism, the Cold War), the mass media (e.g., the commercial movie industry), religion, and even economics (e.g., through key concepts such as "investor confidence" or "stock-market panic").

The Romantic view of emotions was led by Silvan Tomkins, a psychiatrist with a wide range of interests and a formidable intellectual curiosity. Tomkins' style was Romantic in form and content; his approach to problems was a sort of large-scale fresco on which his theoretical reviews could span not just hundreds but thousands of years [5]. Tomkins' approach to emotion is reminiscent of Hegelian dialectics: subjective affects or emotions are innate, supra-historical phenomena whose material counterparts are objective human faces; the dialectical synthesis is absolute, "basic" facial expressions. In Tomkins' words, "the affects are the primary motives of man, and if, as I also believe, the face is the primary site of the affects, then the face is the man" [5].

Tomkins' disciples, Carroll Izard [6] and Paul Ekman [7], developed an empirical version of Tomkins' approach by linking up the idea of universal subjective affects with Darwin's work on facial expression. In 1872 Darwin published *The Expression of the Emotions in Man and Animals*, a minor work aimed at showing that not only morphological features but even behavior is a result of evolution and hereditary transmission. Tomkins' disciples read Darwin's approach as a psychological theory [8], but neither the context nor the content of Darwin's book suggests that this was the case.

Darwin's book belongs to a nineteenth-century tradition of books on human and animal anatomy that extended the descriptive field of this medical discipline; this tradition was a sort of scientific, medical version of the seventeenth and eighteenth-century tradition of academic treatises on the pictorial representations of passions in painting, exemplified by Le Brun's *Conférence sur l'expression* [9]. Le Brun designed his expressions in a deductive way, without empirical support, from a set of theories –based particular on Descartes' ideas, but also on those of Aristotle and Quintilian– about the relationship between body and soul. Le Brun's approach gave rise to a set of rules about the "right" expressions that later inspired Darwin's psychological approach to expression

Whereas Le Brun's method was rationalist, and his goal was to organize as a standardized set of norms the old conventions on the symbolic representation of human passions, Darwin's method was empirical, and his aim was to describe the rich anatomical bases of some muscular movements vaguely described, in colloquial English, as emotional. Darwin also had another immediate goal: to criticize the philosophical assumptions of another contemporary medical book on the anatomy of facial expression –Charles Bell's *Anatomy and Philosophy of Expression*. Bell believed that facial muscles were created by God exclusively for expression [10]. Darwin [11] tried to criticize Bell's views, which underpinned his contemporaries' mainstream approach, arguing that "man is derived from some lower animal form" because facial expressions, as muscular movements, can be observed in all human beings, and there is "to a certain limited extent" a physiognomic continuity between the expressions of animals and human beings. For Darwin, God should be substituted by Evolution.

Darwin developed no psychological theory of emotion in his book. "Emotion" was used as a synonym of "expression", and his careful and insightful description of the expressions of animals and humans contrasts with his vague and conventional list of feelings such as meditation, hunger, determination or love; his empirical meticulousness in the study of

expression contrasts with his list of emotions drawn from Le Brun and other rationalist sources. Darwin's definitions of his famous three Principles of Expression make no mention of emotion, and he concludes his book by inviting "further attention" from "any able *physiologist*".

Apparently, Psychology was not on Darwin's agenda, but the Romantic approach to his work gave a new emphasis to emotion over expression, turning his observations into a quest for transcendent, universal emotions. Darwin's finding of similar *expressions* across cultures, ages, and even species became a finding of similar *emotions* across cultures, ages and species, while his studies on the recognition of expressions became studies on the recognition of emotions. Darwin's empiricist, materialist approach became the Romantic search for universal, intangible entities (basic emotions) in human faces.

5.3 The Facial Expression Program

The search for universal emotions as facial expressions has shaped contemporary research on emotion. In 1971 Carroll E. Izard published the first version of his Differential Emotions Theory [12]. In 1972 Paul Ekman established the bases of the Neurocultural Theory [13]. According to these models, developed over the last thirty years [14], facial expressions are part of a broader, universal phenomenon known as "basic emotions". The main features of these influential models, and the assumptions they have inspired since then, have been summarized by Russell and Fernández-Dols as the "Facial Expression Program" (FEP) [15]. Some of the FEP assumptions are as follows:

- There are a small number (seven plus or minus two) of basic emotions.
- Each basic emotion is genetically determined, universal and discrete.
- Each basic emotion is a coherent pattern of facial behavior, experience, physiology and instrumental actions.
- The production and recognition of distinct facial expressions of basic emotion is the result of evolution.
- Any state lacking its own facial expression is not a basic emotion. There is consensus on the existence of six basic emotions: happiness, surprise, fear, anger, disgust and sadness. Some authors have also proposed contempt, shame and interest.
- All emotions other than the basic ones are subcategories or mixtures of the basic emotions.
- Expressions of emotion are spontaneous. Voluntary facial expressions can simulate spontaneous ones.
- Different cultures establish different display rules. Display rules inhibit, exaggerate or mask spontaneous expressions.
- Any facial expression that deviates from the universal expressions of basic emotion is a mixture of universal expressions or a voluntary display.
- Emotional state is revealed by facial measurement. Observation or electromyography can detect the muscular movements linked to facial expressions of basic emotion.
- If emotional states can be described by facial measurement, verbal reports of emotion can be bypassed. The true criteria for the existence of a basic emotion are to be found in the subjects' facial movements.
- The expressions of basic emotion are easily recognized by all human beings.

- The ability to recognize an expression of basic emotion is innate rather than culturally determined.
- The mental categories by means of which recognition occurs are genetically rather than culturally determined.
- The meaning of a facial expression of basic emotion is invariant across changes in the context in which it is produced.

The “recognition of emotions” in contemporary psychology bears an unfortunate similarity to the Renaissance enterprise of the Neo-Platonic painters that tried to elicit the immediate “recognition” of some intangible entities (e.g., virtues) in observers of their art. Gombrich [16] has suggested, for example, that Botticelli’s mythological paintings were educational programs that included a kind of “moral agenda” drawn up by a humanist intellectual, probably Ficino. Venus becomes, in this view, a tangible expression of *humanitas*, a moral virtue that includes all the desirable traits of a Renaissance gentleman. The contemplation of Venus was a direct contemplation of *humanitas*, so that paintings became an active and decisive educational device.

Like the Neo-Platonic Renaissance painters and scholars, the FEP followers have assumed that some facial expressions *are* universal emotions that will be recognized by human beings irrespective of their culture, epoch or previous experience. This fascinating parallelism is even more evident if we consider the problems the FEP has encountered.

What is the evidence for the universality of facial expressions of basic emotion? Testing the universality hypothesis requires tests of at least three different propositions [15]:

- The same patterns of facial movement occur in all human beings.
- Observers in different societies attribute the same specific emotions to these universal expressions.
- These expressions are manifestations of those same emotions in all human beings.

5.3.1 *Patterns of facial movement*

The first proposition (the same patterns of facial movement occur in all human beings) has always been considered obvious, even though empirical research on the matter has been scarce or non-existent among psychologists. In fact, there are no empirical data on the distribution of particular facial movements across different populations. Eibl-Eibesfeldt [17] is probably the author that has come closest to a description of facial movements across cultures.

He has found some striking similarities across cultures, such as the “eye-brow flash”, as an expression of social contact readiness, or the smile, as an expression of friendly contact readiness. Nevertheless, there is no “incontestable classification of facial expression either on the basis of motivation or, alternatively, on the basis of function” [p. 446], and some data raise interesting questions for the hypothesis of universal *facial movements*: facial musculature shows considerable ethnic and individual variation [p. 461].

Furthermore, there is also some intriguing data on the prevalence of other patterns of facial movement in particular circumstances, substituting the patterns of expression assumed by the FEP.

For example, García-Higuera [18] found that Spanish bullfighters, while in the ring with the bull, display a strikingly uniform pattern of facial movements that have nothing to do with the expressive movements described by the FEP, even though the situation is

obviously intense in emotional terms: a man and an animal fighting for their lives according to an extremely primitive, brutal script.

García-Higuera found a specific and idiosyncratic pattern of expressions of intense happiness that has nothing to do with smiling: when the bullfighters were “in the flow”, absorbed in the fight, having been successful in deceiving the animal, they raised the chin while funneling the lips, an expression that corresponded to their own reports of intense, unique happiness (see Figure 5.2).

On the other hand, the FEP prototypical expressions of happiness (see Figure 5.1) were not particularly frequent in the sample of amateur and professional bullfighters he studied. (see Figure 1) García-Higuera’s findings suggests that the prevalence of some particular facial movements may be less universal than it seems to Western psychologists; the “universal expressions” are anatomically possible for any human being, but they are not necessarily displayed, and we do not know whether they were even the most prevalent at any time in human evolution.



Figure 5.1 Source: A. Bauerfeind (1982) *Mimische Schemata* Munich: Max Plank Institut für Psychiatrie

For example, the bullfighters’ expressions perhaps were, and still are, more prevalent forms of expression for those that have to take risks in a physical fight; in fact, Grant [19] Blurton-Jones [20], and Camras [21] observed similar expressions in children in agonistic contexts.

Finally, a cursory analysis of Western culture throughout history suggests that expressions of basic emotion have not constituted such a common pattern of facial movement as the FEP suggests. We systematically codified all the paintings in the catalogue of the Prado Museum in Madrid (Spain) [22] that depicted events. After excluding 716 paintings (portraits, still lifes, etc.) whose subject had no obvious emotional denotations, we selected 135 works –

painted between the fourteenth and nineteenth centuries– that clearly had an intensely emotional subject and portrayed visible faces. The emotional content and facial action of the pictures were rated by three judges, two of them experts in FACS [23], an observational system that identifies muscular actions through changes in facial appearance. Interestingly, 75 (56%) of these paintings displayed neutral expressions. The remaining 60 (44%) were coded by the judges in terms of the emotion linked to the painting’s theme according to the standards of contemporary observers. In these 60 paintings, 25 were categorized as portraying a situation in which happiness or joy was felt, 15 as representing a situation in which sadness was felt, 14 as corresponding to a situation in which fear was felt, and 6 as portraying a situation in which anger was felt. Out of these 60 “emotional paintings” we found only six facial configurations that could be described as prototypical expressions of emotion according to the FEP; 56% of the sample of these 135 emotional-content paintings show neutral faces.



Figure 5.2 Source: A. Bauerfeind (1982) *Mimische Schemata* Munich: Max Plank Institut für Psychiatrie

The distribution of neutral and expressive faces across the centuries did not show significant differences ($\chi^2(5) = 4.44, p > .05$). With respect to the six paintings that included prototypical expressions, one from the sixteenth century (Patinir’s “The Temptations of St. Anthony”) and four from the seventeenth century (Velázquez’s “Vulcan’s Forge”; Rubens’ “Saturn devouring one of his sons”; Jordaens’ “The Fall of the Giants”; and Teniers’ “The Jolly Soldier”) all showed prototypical expressions of surprise. The exception was an expression of happiness with Duchenne smile (in Velázquez’s “Triumph of Bacchus”).

In summary, we may ask ourselves why almost no artist, over six centuries, was capable of perceiving the facial movements linked to basic emotions, even though, according to the

FEP, they are the universal, explicit and visible signals of emotion, and people can naturally recognize these expressions because they correspond to certain innate perceptual categories [24].

5.3.2 Attribution of emotion

The FEP claims that observers in different societies attribute the same specific emotions to expressions of basic emotion. Figure 3 summarizes a large number of cross-cultural studies on the attribution of basic emotion to prototypical expressions. The standard method of these studies, usually called “recognition studies”, consists in showing subjects a set of pictures of prototypical expressions (such as those in Figure 5.1) and asking them to assign a category of basic emotion (e.g., happiness, sadness, anger, fear, disgust or surprise).

Russell [25] has raised some methodological questions concerning such recognition studies. In Figure 5.3 the bars show the percentage of subjects that chose the expected category (e.g., happiness for a smiling face). The set of bars on the left comes from Western literate societies, the second set from non-Western literate societies, and the third set from non-Western illiterate societies. Even though the ratings of recognition are significantly high across samples, they are proportional to the subjects’ exposure to Western influence. Furthermore, they may be inflated due to the method of these experiments (e.g., the experimenters did not usually speak the subjects’ language in cross-cultural studies; most of the studies used forced-choice response format; etc.) [25].

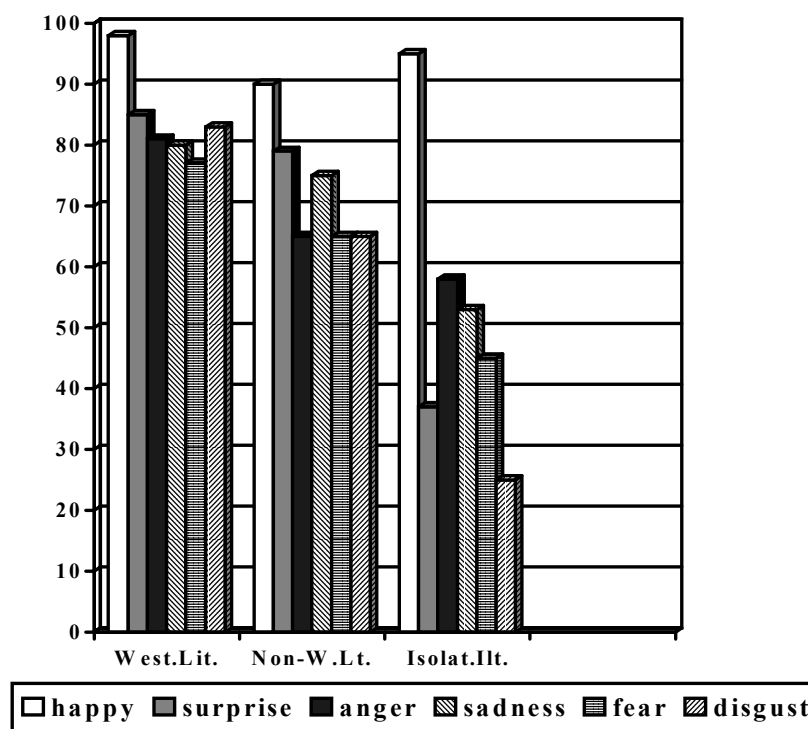


Figure 5.3 Recognition rates for six facial expressions of emotion [25]

The recognition of basic emotion in facial expressions can also be criticized from other theoretical points of view [26]. “Recognition” of emotion in the FEP experiments is not necessarily a Neo-Platonic re-representation of universal entities already known by the individual, but rather a mere process of attribution, in which people link some emotions to some facial patterns using lay explanations that lack any necessary or sufficient relationship to the actual experience of emotion and its behavioral consequences.

According to this attributional hypothesis, people do not recognize emotions; they simply make a kind of illusory correlation: salient facial patterns and emotions, not necessarily produced simultaneously but observed within the same situation, are lumped together into an ideal and unrealistically consistent representation of “emotional expression”. For example, people may frown when they threaten someone, and most people are angry *before* they threaten someone. A realistic description of the situation would say that a person is angry and, afterwards, s/he frowns when s/he threatens another (not necessarily the person that elicited his/her anger). An ideal description would say that people frown when they are angry.

Researchers have carried out experiments in which they modified the usual procedures of recognition studies, finding dramatic changes in the universal pattern of attribution of emotions. For example, Fernández-Dols and Russell [27] explored this hypothesis by giving their judges a chance to perceive the relationship between emotion and expression as embedded in an event in which prototypical expressions and emotional experiences could happen either *sequentially or simultaneously*.

Stimuli were eleven pairs of faces (a neutral and a prototypical expression of basic emotion in each pair) and eleven pairs of sentences. Each pair of faces was displayed by the same model and included a prototypical expression of emotion. The two corresponding sentences represented the model’s experience and interaction at two different times of the event in which the expressions were displayed: a first point in time, at which the model was having an emotional experience (e.g., “So, he harmed my son!”), and a second point at which the model was talking to someone as a consequence of the emotional experience (e.g., “You harmed my son!”). Using the graphic conventions of comics, the sentences were shown inside balloons, the first one represented as a thought and the second one as speech (see Figure 5.4).

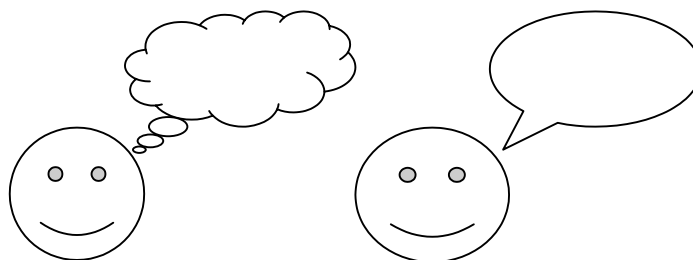


Figure 5.4 The first balloon represents *thought* and the second one represents *speech*

Judges were asked to assign the sentences to the neutral and the prototypical expression in the “most plausible” or “most natural” way. The prototypical facial expression was not associated with the point in time at which the models were having the emotional experience, but with the time in which the models were talking to someone afterwards (81%).

In another experiment, Fernández-Dols and Carrera [28] carried out a more direct test of the hypothesis about people generating an illusory correlation of expression and emotional experience within an ideal expression of emotion. In two studies, adults and children were asked to judge videos and slides of children undergoing a frightening experience (having a vaccination). Even though none of the children shown in the videos and slides displayed prototypical expressions of fear, adults were particularly prone to “recognize” prototypical expressions in these stimuli. For example, in the first study, 80% of the adults claimed they saw prototypical expressions of fear, whereas only 40% of the 6 and 7-year-old children reported seeing prototypical expressions of fear. These studies show that “recognition of emotion” may be explained as the result of an over-generalization based on schemas which, like those of other intuitive theories (e.g., stereotypes about gender), do not necessarily provide an accurate description of a person’s behavior (in this case behavior when feeling an intense emotion). These differences between adults and young children are reminiscent of the above-mentioned differences in recognition between literate and illiterate cultures shown in Figure 5.3.

Attribution with regard to facial expressions is not, according to these and other data [29], a mere recognition of emotions, but rather a much more complex process in which lack of facial expression can, in particular contexts, be as informative as intense facial displays. In the study with paintings referred to above, more than one third of the Prado paintings with an intense emotional subject displayed neutral faces. Carrera and Fernández-Dols [30] carried out an experimental test of the emotional meaning of neutral faces in the context of recognition tasks. They found that neutral faces can be strong sources of information when they interact with particular kinds of emotional contextual information: for example, neutral faces were more influential than prototypical expressions of emotion on judgments about the message of a facial display combined with an unusual, but clear, emotional situation. In other words, faces are intrinsically influential, irrespective of their emotional content, and interact in complex and as yet unknown ways with the context in which they are displayed [29].

5.3.3 *Actual expressions of emotion*

The FEP claims that prototypical expressions are manifestations of the same emotions in all human beings. Fernández-Dols and Ruiz-Belda [31] reviewed the evidence supporting this claim, in addition to that provided by the already-discussed studies on recognition. The first conclusion of this review was that studies on the actual spontaneous expression of adults during intense emotional episodes is surprisingly scarce.

The most cited study in support of the FEP assumption was carried out by Ekman [13] and Friesen [32] at the beginning of the 1970s. They asked American and Japanese students to watch one neutral and three stressful films. Samples were taken of the facial behavior of each subject during the neutral and the final stressful film. Researchers discussed their findings in terms of a global correspondence between the American and Japanese students [32]–, but they provided no data of the precise correspondence between the specific emotion experienced by the students and their facial expression at the time. The experimental studies that have tried to code facial behavior while obtaining reports of

subjects' moment-by-moment emotional feelings have not provided evidence of a clear correspondence between emotional experience and facial expression. Rosenberg and Ekman [33] found a correspondence only between facial expressions of disgust and reports of intense disgust, and only at those moments at which the most intense expressions and the most intense reports coincided; no data were provided on which other faces coincided with intense reports of disgust, or on how many expressions of disgust coincided with no report of disgust. Fernández-Dols, Sánchez, Carrera, and Ruiz-Belda [34] did not find even a partial correspondence between facial expressions and reports of negative emotion from people watching a clip from a horror film (see also Reisenzein) [35].

Field studies on the actual behavior of people in natural encounters in which researchers can infer their emotional state have not obtained better results for the hypothesis of a correspondence between facial behavior and emotional experience. For example, Kraut and Johnston [36] and Fernández-Dols and Ruiz-Belda [37] found that happy people (e.g., hockey fans after an event favorable for their team, gold medal winners at the Olympic Games) did not necessarily smile at happy times, but rather when they were interacting with others.

The above-mentioned sample of Prado paintings produced only six prototypical expressions of emotion (five of surprise and one of enjoyment) as described by the FEP, from 60 paintings. Even these few prototypical expressions did not necessarily represent –in the painter's mind- the basic emotion predicted by the FEP. Contemporary judges judged only three paintings as portraying a situation congruent with the basic emotion attributed by the FEP to their prototypical expressions (“Vulcan's Forge” as surprise and “Triumph of Bacchus” as enjoyment); the other paintings were judged as representing situations in which fear (“Saturn devouring one of his sons”; “The Temptations of St. Anthony”; “The Fall of the Giants”), or happiness (“The Jolly Soldier”) were felt. Of course, judgments by contemporary observers would not be expected to coincide with the intentions and conventions of the artists and their original public (is martyrdom a happy, frightening or sad event for the martyr him/herself?), but the lack of any prototypical expression over several centuries cannot be explained as simply a consequence of lack of technical skill on the part of all the painters included in this sample. Movement and perspective may involve difficult technical problems, but the static representation of at least some of the facial expressions (e.g., open smiling) cannot be considered as too great a challenge for most of the artists whose work is included in the sample.

In sum, there is a surprising lack of definitive data on the actual correspondence between the experience of some particular emotions (e.g., happiness, sadness, etc.) and their corresponding facial behavior as predicted by the FEP.

5.4 An alternative to the Facial Expression Program

The above-mentioned review suggests that the FEP has been only partially successful in the Idealistic task of establishing a link between intangible, universal entities –the basic emotions– and some patterns of facial behavior. A careful description of the patterns of facial movement and attributions about these movements suggests that the relationship between facial behavior and emotion is still an unsolved mystery; nevertheless, we believe that history, and particularly the history of art, could again provide the key to understanding.

Artists, over many centuries, have not resorted to the prototypical expressions claimed by FEP because painting emotion consists not in painting a particular, specific expression,

but rather a pattern of movement in which no isolated gesture has a particular meaning outside of its context and sequence. In this vein, neutral faces may be much more readable as emotion than any expression. Expressions can become grotesque, unnatural grimaces rather than balanced representations of facial behavior linked to an intense emotion; on the other hand, neutral expressions can serve as representations of particular sequences of facial behavior. For example, the painter chooses the neutral face as the departure point for all the future actions entrained by a particular context. Interestingly enough, most of the smiles found in the works from the Prado are displayed by vulgar, drunk or crazy models, or by children. Smiling was not linked, as it is today, with beauty; a fixed, open smile was a sign, not of happiness, but of simpleness.

The lesson we learn from these paintings is that expression is an interactive action “entrained” by the context. As Ginsburg and Harrington [38] have pointed out, emotion is action in context. The context “feeds forward” the sequence of facial action, establishing the path for the future expressive action. The link between expression and emotion is only indirect, and mediated by the motives and strategies linked to a particular sequence of actions. Thus, the emotional expression takes place within the context of a broader system of events and social relationships that are necessary for giving emotional meaning to any facial behavior.

In fact, authors are beginning to discuss their findings, as painters did for centuries. Some authors [39] conclude that expressions of emotion are mediated by social or interactive factors, while others [40, 41] have suggested that facial expressions are produced not by emotion but for social reasons, or as a result of other psychological processes not necessarily linked to emotion.

In any case, the future of the study of facial expression should take into account that facial expressions *are not objects or concepts but events*. Research on facial expression of emotion, like research on many other psychological processes, should pay more attention to the difference between objects and events [42]. Objects persist across time, whereas events last for a specific period of time. In our view, any facial expression is a unique event. People can categorize events but they cannot recognize a particular instance of an event because a given event can only be experienced once. Therefore, people process events guided by concepts.

Facial expressions, then, are episodes that are experienced only once; concepts help to process these episodes in terms of emotions, motives or other sources of information. Nevertheless, the concepts that people use for making these categorizations do not necessarily provide an objective explanation of the causes and dynamics of facial expressions. In other words, people may attribute some emotions to some facial expressions because, for centuries, a particular culture has linked certain facial expressions to certain emotions, or because people like to explain behavior as a consequence of emotion, or for other reasons.

Nevertheless, this consensus on the attribution of expressions to emotions does not necessarily mean that facial expressions are expressions of emotion. Again, an example from art can help us to understand this point: the failure of the neo-Platonic program –in which Renaissance painters tried to represent the actual expression of particular virtues or passions– gave rise to an alternative approach to the representation of abstract or invisible objects in art. This alternative view, of Aristotelian inspiration, approached expression in terms of “allegory”, using a complex language in which expressions might be considered not as indices but as icons of emotions. Following Peirce’s classic typology [43] of signs, there are codes made of symbols, indices and icons.

A symbol bears an arbitrary relationship to its object (e.g., the word “gato” is the

Spanish symbol for a small domestic feline we might see sleeping in our backyard), an icon has a relationship of similarity to its object (e.g., a painting of a woman, as an icon of woman), and an index is physically connected to its object (e.g., smoke as an index of fire).

The FEP claims that a facial expression is an index of emotion, i.e., a substantive aspect of the emotion itself. Our hypothesis is that facial expressions are icons of emotion. As iconic allegories of emotion, facial expressions are neither causally nor functionally linked to the experience of intense emotion, but they can convey the experience of emotion with greater or lesser success, depending on their “readability” for observers. An expression can “allude” to some emotions for different reasons, even though it is not produced by the sender’s emotional state.

Furthermore, an iconic view of facial expressions interprets facial behavior as a movement that cannot be frozen into a particular prototypical expression: “expression” cannot be summarized as a particular facial configuration. Static expressions are just conventional devices to suggest movement or, in psychological terms, interaction.

This view allows us to understand the above-mentioned results of Carrera and Fernandez-Dols, in which neutral faces were as communicative as static prototypical expressions, as well as the lack of expression described for most of the paintings analyzed in the Prado catalogue.

The representation of expression is a representation of a sequence of movements, and *any* part of the sequence can be as representative (or not) as the others, depending on the context. Representing movement is a complex task that requires more than just a short, invariable list of icons.

5.5 Conclusion: Expression and lack of expression

To summarize, facial expression is (a) an icon and (b) an event. As an icon, facial expressions bear a relationship of similarity to emotions but they are not necessarily emotions. Goya’s *Majas* are icons of a woman but they are in no way a woman or part of a woman. The similarity of an icon to its object does not depend on the similarity between icon and object; in fact, in many cases a convincing icon has nothing to do with its object. The canvas, the colors, the drawn lines, etc. have practically nothing to do with the flesh, shape and features of a human being; the similarity between icon and woman comes from a conceptual process in the observer who is capable of reading, in a particular culture, a particular kind of bi-dimensional representation known as “a painting”.

The similarity of an expression to an emotion is also conceptual, and involves a complex process in which an event is processed as a static grimace that is not even necessarily present at the time at which the actor is feeling a particular emotion. Fridlund [41], for example, claims that facial expressions usually attributed to emotions are probably linked to social motives associated with episodes in which people feel particular emotions. For example, smiling is an expression of affiliation but not of happiness; the link between smiling and happiness may be due to the fact that happy people are usually more sociable; crying is a sign of helplessness, but helpless people are usually (but not necessarily) sad, and so on.

As events, facial expressions are flows of behavior. Expression is movement, and no particular pattern of muscular movements can be described as the “true” expression of emotion. The recognition of emotion through static expressions might be an experimental artifact which, as we described above, could easily be deconstructed by giving subjects the

conceptual tools for approaching facial behavior as a sequence of movements in context. In this sense, plain faces are as informative as grimaces when someone –e.g., a skilful painter– has to translate the sequence of movements into a single, static frame.

Our research program is accumulating data that suggest that “expressions” of emotion, as far as their current mainstream definition in psychology textbooks is concerned, are mostly cultural products. The sixteenth-century endeavor of Le Brun and others established a shared code for reading facial expression, followed first by the intellectual elite (e.g., Darwin), and subsequently by most of Western culture (e.g., smiles did not begin to appear in portrait pictures, as a necessary rule of self-expression, until well into the twentieth century).

On the other hand, actual facial behavior linked to the experience of intense emotion, and carefully analyzed frame-by-frame, appears as a disorganized, complex and fascinating event, in which large numbers of facial actions –usually not including the prototypical expressions claimed by FEP– are displayed. This facial behavior is the true expression of emotion, but it cannot be summarized within a single facial configuration, as the proponents of FEP would argue.

“Facial expression of emotion” is usually understood as a single, static, and precise facial configuration, but we would suggest that the real, true “facial expression of emotion” is neither single, nor static, nor precise. Indeed, actual facial expressions of emotion should be defined as lack of the expression.

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