

Ekman's basic emotions: Why not love and jealousy?

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Paul Ekman's view of the emotions is, we argue, pervasive in psychology and is explicitly shaped to be compatible with evolutionary thinking. Yet, strangely, jealousy and parental love, two emotions that figure prominently in evolutionary psychology, are absent from Ekman's list of the emotions. In this paper we examine why Ekman believes this exclusion is necessary, and what this implies about the limits of his conception of emotion. We propose an alternative way of thinking about emotion that does not exclude jealousy and parental love.

No one has contributed more to the psychology of emotion in the last 30 years than Paul Ekman. And one of the things for which he is justly renowned is his list of "basic emotions". Our discussion is focused on this list and on the criteria that Ekman used to generate the list. We are especially focused on the criteria that relate emotional experience to emotional expression. We believe that Ekman's list and criteria constitute his understanding of what an emotion is; we believe that this understanding is widespread in the history and current thinking of psychologists. We believe that the list, and therefore the conception of emotion it embodies, is at odds with evolutionary thinking about emotion—despite Ekman's claims to the contrary. We will offer an account of the emotions that we believe is compatible with evolutionary thinking. We start with the question: What does Ekman mean by "basic emotions"?

Basic emotions

There are two kinds of answers one might give to this question. One answer is: A basic emotion is one that meets a set of criteria; Ekman offers such a set which we shall discuss below. But the other answer is in terms of what Ekman thinks is

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true of the basic emotions by virtue of being “basic” (other than that they meet his criteria) and this gives a reason for making a list of criteria. Ekman has claimed that the basic emotions are the “biological” emotions—those provided by evolution (Ekman, 1992a) and, at least in one instance, he has claimed that the basic emotions are the real emotions (Ekman, 1994b): An emotion is either basic or not really an emotion (Ekman, 1992a). Thus, if there are emotions that are “biological”, given to us by evolution, and “real” that are not on the list, then there is something wrong with the criteria because these are supposed to provide the real, etc., emotions. And, since the criteria are themselves derived from a conception of emotion, there is something wrong with the conception. The starting point of this paper is the observation that at least two important emotions that would seem to be real, biological, and provided by evolution are not on Ekman’s list, namely jealousy and parental love. Their absence is at the least curious; indeed jealousy and parental love seem to be the stars of evolutionary psychology: They are understood as being the prototypes of emotions given to us by evolution, the emotions closest to our reproductive interests (see Buss, 2000; Pinker, 1997), and this leads us to wonder whether Ekman’s criteria are the right ones to pick out the real emotions, and, therefore, whether his conception of emotion is the right conception. The absence from Ekman’s list of the star evolutionary emotions would perhaps not be so unsettling were it not for the fact that no one is a more dedicated evolutionist than Ekman. Indeed, it is Ekman who edited and annotated the third edition of Darwin’s (1872/1998) classic book on the emotions; so this dispute is within the community of evolutionists, not a dispute between those with an evolutionary view and those inclined toward social constructivism. This dispute arises, as we shall see, because there are two fundamentally different ideas in play about what an emotion is. And that leads us to ask: Which one is right?

Ekman and reductionism

In creating a short list of basic emotions Ekman joins a strong tradition of reductionism in psychology. Indeed, psychologists since James (1892/1961), ourselves included, have complained about the large number of emotions there seems to be, and about the tediousness of their endless subtlety—they bored even James.¹ Psychologists have longed to reduce the list to some subset from which the other emotions could somehow be constructed—in something like the way the enormous palette of subtly differing colours can be constructed from the primary colours. Ekman does not embrace anything like an “emotion wheel”

¹“But as far as the ‘scientific psychology’ of the emotion goes, I may have been surfeited by too much reading of classic works on the subject, but I should as lief read verbal descriptions of the shapes of the rocks on a New Hampshire farm as toil through them again” (James, 1892/1961, pp. 241–242).

(Plutchick, 1980), but he does embrace the reductionist desires that go with it, and, as we shall argue, he, at least at a distance, embraces the notion that the emotions, like colours, are really sensations or “raw feels”.

What are these raw feels? A reasonably current list of the established basic emotions is: anger, fear, surprise, sadness, happiness, disgust, and perhaps contempt (Ekman, 1992a). Just how one gets from the basic emotions to the other (not basic?) emotions has not been the focus of Ekman’s attention. Although, as we mentioned, it is true that at least in Ekman’s 1992 and 1994 writings it becomes clear that “basic” is just a polite term for real. So Ekman’s lack of interest in the not-basic emotions is, perhaps, understandable, since he sees them as the not-real emotions. Unfortunately, other psychologists, also interested in sparing James from having to read all those tedious pages about the endless parade of emotions, have other lists of the basic emotions (see Ekman, 1992a; Izard, 1992; Turner & Ortony, 1992, for a spirited discussion.) But Ekman is not really interested in defending any particular list. What he is concerned with is the criteria by which these basic emotions are picked out. Table 1 is one set of criteria Ekman has proposed; Table 2 is a list of emotions that Ekman either believes are well established as belonging on the list, or might turn out to be picked out by these criteria (Ekman, 1992).

Criteria for basic emotions. Let us concede to Ekman that the criteria he proposes indeed pick out the emotions he says they pick out. So they are, by definition, basic emotions. But, of course, Ekman does not intend his criteria simply to define what *he means by* “basic emotions”. He believes that his criteria establish something important about whatever meets them. Specifically, he believes that all (and only) states that meet these criteria are emotions, emotions that we have by virtue of natural selection. These criteria embody

TABLE 1
Criteria of the basic emotions according to Ekman (1994b)

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- Distinctive universal signals
 - Presence in other primates
 - Distinctive physiology
 - Distinctive universals in antecedent events
 - Rapid onset
 - Brief duration
 - Automatic appraisal
 - Unbidden occurrence
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Note: In 1999, Ekman added three additional criteria:

- Distinctive appearance developmentally.
- Distinctive thoughts, memories, images
- Distinctive subjective experience.

TABLE 2
The well-established and possible basic emotions according
to Ekman (1999)

Well-established basic emotions	
Anger	
Fear	
Sadness	
Enjoyment	
Disgust	
Surprise	
Candidate basic emotions	
Contempt	Excitement
Shame	Pride in achievement
Guilt	Relief
Embarrassment	Satisfaction
Awe	Sensory pleasure
Amusement	Enjoyment

Ekman's theory of evolution and emotion; they are not a theory of how the emotions evolved, but they are (collectively) a theory of how one recognises evolved emotions when one sees them.

Some of the work the criteria do is to distinguish emotions from other mental entities. Thus, rapid onset and short duration are criteria intended to distinguish emotions from other phenomena, such as moods. But other criteria are concerned specifically with evolution. Universality, isomorphism in form from one species to another, and, especially, the requirement that there be a unique facial expression for every unique emotion are intended to be criteria that reveal the hand of natural selection at work.

It might seem odd to qualify "criteria" with "especially" but both Ekman's criteria and his research have as their central element emotional *expression*. Expression is important to Ekman for two distinct reasons. The first is methodological; Ekman's way of studying the emotions is through their expression. But the second reason is more theoretical. As we shall see, Ekman follows Darwin in arguing that natural selection created emotions by shaping expressions. Let us examine how Ekman aligns expression and experience first in a methodological sense and then in a theoretical sense.

Ekman and behaviourism. Ekman's approach to the negotiation of expression and experience was shaped by his dialogue with the behaviourist tradition, although he is not himself a behaviourist. Behaviourists tended to dismiss emotions in one of two ways. They tended to declare emotional experience to be subjective and then either to deny the reality of subjective

experience or to deny that one could study subjective experience scientifically. Either way, emotional experience was dismissed. Ekman does neither. He does not deny the reality of subjective experience; indeed he explicitly endorses subjective experience as an aspect of emotion. But Ekman, on the other hand, does not study emotion by asking people about their experiences, the traditional way to proceed for those who think subjective experience is the central component of emotion. Rather, he studies emotion by examining in minute detail people's expressions of emotion. Ekman, then, partakes of the behaviourist tradition both by eschewing asking people about things that are subjective and by measuring things that are observable with ever increasing precision. Indeed, throughout his career Ekman has continually refined his measurement techniques for facial expression. So while Ekman is not an ontological behaviourist, he is a methodological behaviourist in that he studies and measures facial expressions (i.e., observable phenomena).

The problem, of course, with, on the one hand, allowing that subjective experience is what is important when it comes to emotion but, on the other hand, measuring facial expressions, is that it leads one to wonder whether all this measurement attention might not be on something only distantly related to what one is really interested in. Is the measuring of facial expressions a matter of looking for one's keys where the light is strong rather than where one thinks one lost them?

There are many different ways Ekman has addressed this issue over the years; that is, there are many ways Ekman has argued that there is a very tight relationship between facial expression and emotional experience (see, for example, Rosenberg & Ekman, 1994, on the coherence of various measures of certain emotions). The tighter this relationship can be made, the more telling about emotional experience emotional expression is. We will consider three ways Ekman has addressed the expression-experience relationship: display rules, the facial feedback hypothesis, and the notion of faked versus spontaneous expressions. Our aim in doing this is not to criticise these treatments, but rather to establish how important it is to Ekman that experience and expression be very tightly bound. As we shall see, jealousy and love have been excluded from the list to preserve the experience-expression link.

Display rules. There are at least two threats to a tight link between facial expression and experience: Concealed emotions and faked expressions. Ekman, of course, has not failed to notice either of these. First, Ekman invented, the notion of "display rules"; these are cultural rules that proscribe or prescribe displays that people should make in specific social situations.

From the point of view of a student of the emotions per se, display rules are an annoyance. They annoy in two ways: they can cause people to express emotions they do not feel, or they can cause people to suppress emotions they do feel. But these annoyances are practical, not principled. That is, as is true in

much of science, only under the right viewing circumstances can the true nature of the object under observation be seen, and for the emotions, according to Ekman, that is when the participant knows he or she is alone. When alone, the argument goes, display rules are not operative, and emotional expressions are neither faked nor suppressed. So one way Ekman deals with the tension between expression and experience is by specifying the conditions under which they are closely aligned (see Ekman, 1989, for the argument about display rules, as well as an interesting history of the study of emotional expression).

The facial feedback hypothesis. Another way that Ekman keeps emotion and expression tightly linked, is that he follows Darwin (1872/1998), James (1890/1950), and Tomkins (1962) in endorsing the “facial feedback hypothesis”, the idea that facial expressions produce emotional experience as well as reflect it. On this view, even if a facial expression were to begin as faked, it would finish by inducing the experience it was a faked expression of.² And, indeed, Ekman has also suggested that facial expressions will generate unique physiology and brain activity associated with the emotions (Davidson, Ekman, Saron, Senulis, & Friesen, 1990; Ekman, 1992b; Ekman & Davidson, 1993; Ekman, Levenson, & Friesen, 1983; Levenson, Ekman, & Friesen, 1990; Levenson, Ekman, Heider, & Friesen, 1992).

Faked and spontaneous expressions. Ekman has conceded that facial expressions can be faked; he has also insisted that faked expressions can be distinguished from spontaneous expressions. It is important, however, to realise that what Ekman has shown in this regard is that there is information in facial expressions that *allows one* to distinguish spontaneous from faked expressions.³ Detecting faked expressions typically requires trained observers or elaborate equipment, or both. (See Ekman, 1991; Ekman & O’Sullivan, 1991, on attempts to demonstrate that professional lie-catchers can detect these expressions and Frank & Ekman, 1997, for evidence that the ability to detect lies generalises from one situation to another. (See also, Ekman, Friesen, & Ancoli, 1980; Ekman, Friesen, & O’Sullivan, 1988, and Mark, Ekman, & Friesen, 1993, on detecting smiles of enjoyment from smiles concealing bad feelings using the Facial Affect

² Proponents of the facial feedback hypothesis were driven into retreat by the Tourangeau and Ellsworth (1979) data which were not supportive of this hypothesis. The retreat led to a lively exchange, but just where the proponents retreated to is hard to say (see Hager & Ekman, 1981).

³ One might argue that the broad social smile one offers one’s dinner guests when one is dead tired from having been up all night with one’s screaming infant, and when one is not at all sure that one’s soufflé will rise and when, in general, one would really much rather have a nap than a dinner party is not, as it might seem, a faked expression of pleasure, but is, rather, a real sign of self- and other-respect, respect for the social life. One might, in other words, see it as naive to believe this is a faked expression of pleasure. However, one must surely conceal that the expression is what it is. In other words, considerable subtlety lurks here.

Coding System.) It is as if the stickleback's dance could be decoded, but only by ethologists armed with slow motion photography and electrodes.

For Ekman, then, the experience and the expression of emotion are certainly distinct; Ekman is not a behaviourist. But it is crucial that they be tightly bound, at least under the right circumstances. Ekman's position about display rules, the facial feedback hypothesis, and faked versus spontaneous expressions are all consistent with the idea that although expression and experience are distinct, expression is the royal road to experience. We shall return to this issue below.

Ekman and the evolution of emotion

Perhaps the most important way Ekman ties the expression and the experience of the emotions together is via the evolution of emotion. Evolution cannot affect aspects of phenomena that do not have implications for reproduction. Evolution has to "see" things for it to shape them. If emotions are purely subjective, then evolution cannot see them and cannot shape them. But expressions of emotion, on the other hand, are behaviours, and expressions have consequences for survival and, more importantly, for reproduction. So evolution can act on emotional expression. And, in so far as expression and experience are linked, it can act on experience as well. For Ekman, then, his research programme has a behaviourist component because natural selection is a behaviourist.

Darwin and Ekman on experience and expression

Darwin had an explanation for why the expressions came to have the form they had: The "doctrine of serviceable associated habits". The doctrine works this way: On being threatened, an animal may expose its teeth, crouch, and so on, as part of its most important response (biting). By association, the same movements come to be performed in new, threatening situations even though they may not be of use in these new situations. Over time, the muscular expressions that are mainly under voluntary control will cease. Those under the least such control will remain and be passed on to the animal's descendants (Darwin, 1872/1998). This account is clear but unfortunately, as Ekman points out, it is Lamarckian, requiring the passing on of acquired characteristics (Ekman, 1998a). Thus, Ekman cannot rely on Darwin's account of the evolution of emotion. But if not Darwin's, then what account does Ekman rely upon?

Ekman offers this view of the evolution of the anger expression: An organism that displays its intent to attack another might, by so doing, avoid the necessity of actually attacking the other—if the animal reading the display withdraws in anticipation of the attack. It is in the interest of both the attacker and the attacked that unnecessary fights be avoided. Ekman's account leaves us here. But, in the case of humans, it is also in the interest of the attacker to overstate either his capacity to attack or the firmness of his intention: How is such a signal to be kept honest?

One answer offered by Frank (1988) (and Pinker, 1997) is that for a threat to work it must be a credible threat; that is, the attacker must convince the to-be-attacked that the attacker means business. And, the story goes, the best way—perhaps the only way—for the attacker to convince the attacked that the display is authentic is by having an honest signal. That is, the threat display signals that an attack is imminent and unavoidable (unless the to-be-attacked withdraws) and the threat display is an honest signal because the propensity to carry through on such a threat display is beyond the voluntary control of the attacker.

The idea here is that those signallers whose signals were under voluntary control were likely to give off dishonest signals. They got caught and their signals were ignored. Those signallers, on the other hand, whose signals were involuntary continued to be attended to and hence avoided useless fights. Thus, signallers with involuntary signals enjoyed a competitive advantage. And this explains why the tight linkage between signal and experience evolved.^{4,5}

There are at least two things worth pointing out about this theorising (as Frank, 1988, has discussed): In a world full of honest signallers, cheaters are unlikely to be detected. So one wonders whether this line of attack really does solve the honest signal problem. And second, does this same argument apply for fear? For surprise? For contempt? For happiness? What advantage accrues for the signaller who signals fear? From the evolutionary perspective that Ekman and Darwin share, expression is an essential rather than detachable component of emotion, in part because it is on the expression of emotion that natural selection works. The experience of emotion is shaped by natural selection *through* selection's effects on expression. Expression, then is where the many threads of Ekman's (and psychology's more general) treatment of emotion come together. Now we can address the question with which we started: Why are jealousy and parental love missing from Ekman's list?

Jealousy and parental love

The short answer to why love and jealousy are missing from the list is that they do not have unique facial expressions; there is no facial expression that all and only jealous people have, or that all and only people experiencing love have. The jealous person is now lonely, then angry, then sad—different experiences and different expressions, expressions shared by other emotions. A parent expresses love in the smile in return of the child's smile, but also in the look of

⁴This explains why a tight relationship between signal and subsequent behaviour evolved, but this is a distinction Ekman repeatedly rejects as a distinction that makes no difference (Ekman, 1997).

⁵This account does not explain why any particular display evolved, which Darwin's account did. Indeed, it is perhaps because there is no account of the evolution of particular expressions of emotion that universality is so important to Ekman.

terror when the child is in trouble; there is no expression always and only associated with parental love. But Ekman, of course, does not want to remove jealousy, love, envy, and so on from the list of emotions just because they lack unique expressions; were he to, then the idea that real emotions have unique expressions would, obviously, be a stipulation not a discovery. So Ekman wants to exclude them from the list of proper emotions on *other grounds*, then their also lacking unique expressions is evidence for the claim that the basic (real) emotions have unique expressions. So by what (other) means does Ekman exclude love, jealousy, envy, and so on from the catalogue of authentic emotions?

One way he has of excluding them is by calling them “emotion plots” (or “emotion complexes”, or affective commitments, Ekman, 1998, pp. 60, 213, 260) rather than emotions. How are emotion plots different from the basic emotions?

Ekman offers several reasons. Here is the first: “Emotions are brief and episodic, lasting seconds or minutes. Parental love, romantic love, hatred, envy or jealousy last for much longer periods—months, years, a lifetime for love and hatred, and at least hours or days for envy and jealousy” (Ekman, 1998, p. 83). But is this really a difference between jealousy and love on the one hand and sadness and anger on the other? Ryle (1949/1961) pointed out that emotion terms like anger, jealousy, and so on have both a dispositional and an episodic sense. It is perfectly understandable to say of someone that he has been angry with his brother ever since his brother stole his sweetheart in high school 40 years ago. And no one would think that this means that for every moment in the last 40 years he has been experiencing (or showing the facial expression, or physiology appropriate to) anger. Rather one means that he is prone to experience episodes of anger when, but only when, he thinks of his brother. Well, the same goes for jealousy, envy, and so on. Of course one can be jealous of someone for months, or years, but there are also episodes of acute jealousy. It is in the dispositional sense that one is jealous for 40 years, but in the episodic sense that one has pangs of jealousy. And, surely, sadness, one of Ekman’s basic emotions, can endure in some sense for years. It would seem, then, that duration does not really pick out the emotion plots from the basic emotions.

The second difference between emotion plots and basic emotions has to do with whether they have “objects”. Ekman wants to argue that the basic emotions are essentially experiential states of the organism—like a pain or an itch—which are expressed in facial expressions. Emotional states are, to be sure, typically triggered by events in the world, but that is their only connection to things in the world. So fear, for example, is a pure feeling triggered, perhaps, by some dangerous something or other in the world, but once it is triggered by the dangerous thing that triggered it, it is no more connected to it than is an itch to the mosquito that caused it. And so too for anger. But for Ekman things are different for jealousy, envy, and love. Ekman argues that the jealous person is

always jealous of someone; the envious person is always envious of someone, the parent who loves a child loves a specific child. These “emotion plots” always have a connection with something in the world (Ekman, 1998). In philosophical language, the emotion plots have “objects” but the basic emotions do not. Is this so?

Well, first, one may dispute that fear and anger do *not* have objects. Certainly many episodes of fear and anger do have objects. If someone is angry at a reviewer, that person is angry at the reviewer (*pace* James, 1892/1961). If someone is afraid of a root canal, that person is afraid of a root canal. If someone has insulted you and you wish revenge, your wish for revenge against that person is surely as connected to that person as is your jealousy toward him if he has moved in on your spouse. So it seems just plainly wrong to claim that the basic emotions cannot have objects in the same sense that the emotion plots do. Still one supposes that people can be happy or sad without at the moment having anything in mind they are happy or sad about. And there is such a thing as free floating anxiety. But is there free floating anger? Are people really ever angry without being angry at someone in particular? To be sure there are bad moods in which one flits between now this target of anger now that target, but, still, at every moment there is a specific target. And contempt? Is it really possible to have contempt but not for anyone or anything in particular? If not, then why does Ekman admit *it* as a possible emotion and not parental love or jealousy?

The fact is, we do not believe that these reasons Ekman gives to distinguish emotion plots from basic emotions are very compelling. In the end, we believe that the only criterion for being a basic emotion that anger passes but love and jealousy do not pass is that anger has, but the other two do not have, a unique facial expression. Striking parental love and jealousy from the list of basic—in the sense of evolved, biological—emotions is a steep price for a theory of emotions to pay; surely we should pay it if and only if there is no other choice.

No unique facial expressions

Suppose we give up on the idea that all emotions have a unique facial expressions; what are the costs? What unravels if we let in emotions without unique expressions?

First, let us confront natural selection’s behaviourism. That is, natural selection can operate only on traits that have reproductive consequences. On Ekman’s (and perhaps Darwin’s) view the behavioural manifestation of the emotions on which natural selection works is their expression. But if jealousy, and parental love have no particular expression, then how can natural selection shape them? The answer evolutionary psychologists would give is that these emotional states have behavioural consequences, consequences quite different from mere expression (Buss, 2000)—for example, jealous males physically attack mates they believe to be unfaithful, thus discouraging further infidelity;

parents who experience the emotion of parental love take better care of their children than those who do not; these are the important behavioural manifestations of these emotions and show why the emotions were shaped by evolution.

Jealousy induces unfaithful mate abuse; parental love induces care for one's young; hunger induces eating. The third of these is usually considered part of the psychology of motivation, or, as it is sometimes called, the psychology of motivated behaviour. But the first two are thought of as emotions. Why? How are emotions and motives different? Sabini and Silver (1998a) have addressed this elsewhere, at least for some emotions, and we will address it below. But before we do that, what has Ekman to say on the topic of the relationship of emotions to motivation?

Emotion and motivation

Ekman (Ekman & Davidson, 1994) allows as how emotions "have motivational properties" (p. 412). There seem to be two concepts Ekman means by that: First, some emotional states are pleasant or unpleasant. And, hence, we try to seek them out or avoid them. Fear, for example, is an unpleasant state, quite apart from the fact that, typically, that which is feared is unpleasant. In other words, emotional states may have reinforcement value. But this is not the sense in which one means that jealousy motivated attacking an unfaithful mate. What one means is that the jealous person *wants to* attack, is driven to attack, is eager to attack.

Second, Ekman seems to endorse what might be called the booster rocket theory of the emotions (i.e., that the emotions energise desires). They add energy to desires so that the desires can find expression in behaviour. Of course, for this to make any sense, one needs a way to distinguish the motives or desires from the emotions. Let us try out a way to distinguish motives or desires from emotions.

One traditional way to distinguish motives or desires from emotions is to try to build on a distinction between acting and feeling. An angry person wants to do certain things, often get revenge, but the angry person also feels certain things; motivation has to do with action; emotion has to do with feelings. Action and feelings, of course, have always been the anchor points of American psychological thought about emotion. The question is: Should we conceive of the emotions as feelings—akin to sensations in the psychophysical tradition, the tradition that generated emotion wheels akin to colour wheels—or should we conceive of emotions as impulses to act? These are the elements of James's tableau of the bear, running away, and the bodily sensations. The issue for James was: What is the emotion? His famous answer centred on the feelings: The perception of bodily feedback *IS* the emotion. Ekman, by downplaying action, places himself in the "feeling" (subjective experience) corner on emotion. And since jealousy, parental, love, envy, and so on have no distinctive feeling

attached to them—any more than they have a distinct expression; they are excluded from the list of true emotions.

But let us follow through on the notion that emotions are actually feelings and are, as such, distinct from actions. How would these feelings result in facial expressions? As Darwin and Ekman know, the only path is because feelings and facial expressions are to some degree connected to action. Natural selection will not pay off on an organism's idle curiosity about another organism's subjective states. If, and only if, those states are to some degree predictive of subsequent action will it be in the interest of the receiver to detect and decode those facial expressions. And if, and only if, it is in the interest of the recipient to detect and decode is it in the interest of the sender to send. So the only way to sustain a communications view of facial expressions is to embed those expressions in action and, therefore, in motivation.⁶ There are, then, at least three elements of this story: internal (subjective) feelings, facial expressions, and actions. As we have said, one way to make the emotion-motivation distinction is to argue that emotions have to do with feelings, while motivations (desires) have to do with actions. The question is, then: What do facial expressions have to do with? For Ekman the answer is: with emotions, feelings. But the story of how the facial expressions and emotions evolved must tie facial expressions to actions, not feelings.

A way out of this dilemma is to decide that emotions and motives are, in the end, the same psychological entities. One must explain, then: (1) Why we have use for talk about emotion as distinct from talk about motivation. (2) How feelings, facial expressions, and actions are related regardless of what one calls them. And Sabini and Silver have tried to provide a solution in that direction, at least for some emotions/motives (Sabini & Silver, 1998a). But rehashing that solution is not our primary aim here, instead we want first to go in a different direction. Suppose Ekman were to argue that trying to distinguish emotion from motivation is hair-splitting. What problem would follow for him?

Ekman's argument contra jealousy and parental love is that they are not basic emotions because they lack unique facial expressions and, *soto voce*, they lack unique subjective feelings. Suppose we concede that argument for the moment. Still, evolutionists like Buss, insist that jealousy is an important motive (i.e., they insist that jealous people are engaged in goal-directed behaviour), where the goal is the guarding of their mates from encroachment by other potential mates. Their argument is that jealousy consists in the actions and feelings that were shaped by our having this goal. Thus, although it may be true that people may feel different things at different times, what makes the token feelings and

⁶This point is independent of the point that whatever facial expressions communicate, they should not do so perfectly, but only well enough to provide enough information to the recipient to keep the recipient attentive.

expressions all feelings and expression of *jealousy* is not that they have similar “raw feels” but that they are all provoked by the loss of an exclusive relationship with a mate to an interloper and directed toward that fact. Similarly, what makes the various feelings of parental love feelings of parental love is that whether they be joy or fear, or anger, they are organised by the idea of protecting the welfare (in the broadest sense) of one’s child. Motives are distinguished, differentiated, identified, after all, by what they are aimed at. Jealousy and parental love have single, though abstract, goals—the retention of a mate, the well-being of a child. Motives, desires, are individuated, then, by something more abstract either than feelings or facial expressions.

That jealousy and love are constituted by *patterns* of feelings and actions is surely true as a linguistic, semantic fact. If your mate is run over by a car driven by a drunk driver, and you intermittently feel loss, loneliness, rage, and so on—the constituent feelings of jealousy—you would not, nonetheless, be described as feeling jealousy. For these feelings to be described as tokens of jealous feelings they must be triggered by and *aimed at* an interloper (see Russell, 2003, on the distinction between a linguistic convention and a mechanism). But Buss (2000) is not making a semantic argument; he is making an argument that, we believe, asserts that language aside, there is evidence that jealousy as a motive evolved under selection pressure provided by the advantages that come to organisms which mate guard.

Now let us see what this comes to. Ekman (and Darwin) view jealousy as simply the name given to feelings of sadness, loneliness, anger, and so on when an interloper moves in on one’s mate. On his view, sadness, anger and, so on, indeed evolved under selection pressure, selection pressure having nothing to do with mate-guarding per se. Buss might well concede this and agree that evolution does not start from scratch, but, rather, builds on what already exists. Thus, Buss might argue that evolution bound these earlier states together in the service of mate guarding; on this account it is the organisation, one might say orchestration, of these other states that *IS* the motivation or emotion of jealousy. Buss might argue that the question of their being (or not being) a unique feeling (or expression) associated with jealousy is simply beside the point; jealousy is a pattern, and that pattern evolved. How does Buss propose to show that jealousy, as a specific goal directed pattern evolved? He and his colleagues have argued that there is a specific sexual dimorphism that is characteristic of the emotion of jealousy, one that is not characteristic of the underlying states, and one that can be understood only in the light of the different reproductive roles of males and females (see, for example, Buss, 2000; Buss, Larsen, Westen, & Semmelroth, 1992; Sabini & Green, 2004, for a list of replications). Others have offered counter-arguments and conflicting data (see DeSteno, Bartlett, Braverman, & Salovey, 2002; DeSteno & Salovey, 1996; Green & Sabini, 2005; Harris, 2002, 2003; Harris & Christenfeld, 1996; Sabini & Green; 2004; Sabini & Silver, this issue). Now we do not mean to resolve this empirical issue here; at the moment

the evidence is looking rather bad for Buss' view. All we mean to assert here is that the issue *is* empirical and *not* to be decided on the basis of whether jealousy has a unique facial expression or feeling attached to it. And, of course, all of these arguments apply a fortiori to parental love.

Excessive concreteness

The quest, we suggest, for a psychology of emotions since, at least, James has been for something concrete that would differentiate one emotion from another. Sensations, facial expressions, bodily states have all had their starring moments. And this emphasis on concrete behaviours fit well with the traditional *ethological* view of evolution, that is, with the idea that what is passed on from one species to the next are concrete behavioral programmes. How far is an affect programme from the dance of the stickleback? But is it sensible to identify the emotions that way?

Time was when anger was seen as doubly concrete. On its expressive side was some sort of affect programme, on the stimulus side was "frustration", meant seriously and concretely as the blocking of a goal-directed action. The charm of that conception of the triggering of anger was that it was a concept borrowed from animal models, and it was surely a concept that could be easily operationalised. The problem was that it did not fit very well with what made people angry. Ironically, much, if not almost all, of the research on anger conducted under the auspices of this theory actually operationalised frustration by *insulting* participants, not blocking their goal-directed behaviour. By now, we suspect, there are few psychologists who would want to hold on to "frustration" as the cause of anger rather than the appraisal that one has been insulted or in some other way transgressed. Transgression is a really rather abstract idea, but it does seem that it is the right idea, as Aristotle said, for what triggers anger. But if the perception of transgression is the stimulus for anger, what is anger itself?⁷ What is an angry response?

Angry actions are those directed at revenge against the apparent transgressor, whether they be physical assaults, actions at law, letters to the editor, or painting or writing one's adversaries in hell, as did Michelangelo and Dante. There is, we suggest, nothing concrete these actions have in common; they have in common only what goal directed actions typically have in common—a goal.⁸ But if angry actions are individuated by their goals, how are angry feelings differentiated from other feelings?

⁷ We certainly are not claiming that all cases of anger are a consequence of an *actual* transgression, merely that the perception of transgression is the usual cause of anger. And we admit that frustration can turn one's mind in the direction of transgression (see Berkowitz, 1989).

⁸ Just exactly what the goal of the angry person is hard to say. The best account we have heard is that an angry person wants the target of her anger to "rue the day he messed with me". This account was offered by Karlene Hanko; we thank her for it.

Sabini and Silver (1998a) have argued that, at least for some emotions, what one feels when one feels an emotion is the preparation for the action. In other words, there is nothing all feelings of anger have except they are all feelings of preparing oneself to take revenge. There is nothing all feelings of jealousy have in common, except they are all attempts to respond to a wandering mate. And so on.

If parental love and jealousy are to be readmitted to the family of emotions, or at least become candidates for admission, then, it seems to us, one must give up on the idea that the emotions—or, at least, all of the emotions, are to be identified with *anything* concrete. Parental love is not a unitary feeling, facial expression, or autonomic state. It is not a unitary anything, except function. What, then, evolved? What did evolution give us in giving us emotions?

We offer the following: At least for the passions, what evolved was a set of connections, connections between certain (abstract) perceptions or appraisals and certain desires. What evolved in fear was the propensity to seek safety when one perceives danger. The evolved connection, we argue, is not between some fixed set of stimuli defined physically and some response defined equally physically. What evolved was a connection between certain perceptions (appraisals) and certain response tendencies. It is just true that people can be driven to panic by sinking Dow Jones Averages or raging cholesterol, and evolution certainly did not prepare us for those particulars. (And conditioning accounts of how we come to fear those things are, well, just so stories.) Ekman (1999) certainly recognises that the antecedent events that trigger emotional episodes might well be abstract; it is less obvious that he is as aware of the abstract nature of the class of events that will serve as a response. It is the lack of willingness to accept “whatever it takes to guard one’s mate” as the defining class of jealousy that leads him to reject jealousy as a proper emotion, quite independent of the kinds of data Buss offers, and others criticise.

Ekman’s basic emotions revisited

What, then, are Ekman’s basic emotions; what do they have in common other than meeting the criteria Ekman sets for them? Well, they certainly seem to be universal, communicative gestures. Despite the sharp, critical reading of the literature Russell (1994) has offered us, it still seems that the evidence favors the universality of Ekman’s set of basic emotions as messages we can all deliver and read. (See Ekman, 1994a; Ekman & Friesen, 1971; Ekman et al., 1987; Rosenberg & Ekman, 1995b, and Russell, 1994, for an extraordinary exchange on this issue.) So one thing the Ekman list might be is a list of innate messages. The smile delivers the message: “I like what is going on, please do more of it”. Contempt delivers the message, “Scum!”. The angry face says, “Get out of my way, dude”, and so on. Note that this view allows for a distinction between spontaneous and fake; a fake smile says do more of this I like it, when you really

do not like it. Are the facial expressions also hitched to unique feeling states? This is somewhat murky.

Perhaps all tokens of the experience of fear involve autonomic arousal; perhaps for evolutionary reasons sympathetic arousal is part of our preparation to act in the face of perceived danger, regardless of the source. And perhaps the unique feeling we feel in fear is that feedback from that autonomic arousal (despite the Schachter and Singer, 1962, finding that the feeling is not unique). But what about sadness and happiness? Is there an experience of happiness that is the same regardless of whether one is happy with: the meal one just ate, the smile one just got from one's child, the smile one just got from the person one is flirting with, one's party having just won the election, and so on. Note that the answer to this question might well be no, even if there are real and faked smiles and real and faked likings. One might like many different things, in many different ways. So on our view, Ekman's list is certainly a (perhaps incomplete) list of innate, universal messages. It is also (arguably) a list of affective sensations. But it is not a list of the basic, or real, emotions.

Some alternative thoughts

Let us conclude by offering some alternative thoughts about the nature of emotion or affect, but first we must repeat what we said at the beginning, no one has contributed more to the study of emotion in the last 30 years than Paul Ekman. Still, we would suggest that facial expressions be placed at some distance from the study of emotion. As Fridlund (1994) has argued, facial expressions are communicative gestures, so to understand them one must specify how it is in the interest of the sender and the receiver to produce and decode them. It strikes us as unlikely that too tight a link between such expressions and subjective experience will be in the interest of sender and receiver. Receivers are unlikely to care about the raw feels of senders except to the degree that those feels are linked to action, but to the degree that facial expressions signal action tendencies they are likely to take more into account than raw feels. And, on the other hand, if expressions are too tightly linked to action they may give away more than the sender can afford to convey.

Second, we would suggest that more attention be paid to taxonomy in the domain of emotion. Whether contempt has or does not have a unique facial expression, we strongly doubt that it is wise to include it as an emotion. Is it not an attitude? Is happiness an emotion? Is it one in an episodic sense or in a dispositional sense? Generally, we would urge greater attention to ordinary language use in the domain of affect. For example, Clore, Ortony, and Foss (1987); Kenny (1963); and Ortony (1987) have argued that in English saying that someone "is afraid" and saying that someone "feels afraid" mean roughly the same thing, but saying that someone "is guilty" and "feels guilty" do not at all mean the same thing. This seems to us to be an example of how ordinary

language might be used to classify the broad domain of mental states called affect (for more on such attempts, see Sabini & Silver, 2005).

Finally, and most importantly, we suggest greater attention to the relation between motivation and emotion. We have taken the position that, at least for some emotions, the passions, there is at bottom only one psychological entity sometimes referred to as emotion and sometimes as motivation (Sabini & Silver, 1998a). And we have offered some thoughts about why this phenomenon is sometimes called emotion and sometimes motivation. We are not alone in this position. Buck (1985), for example, explicitly refers to emotion and motivation as one and the same thing—primes. And both Fridja and Roseman have come close to this identity view (Fridja, Kuipers, & ter Shure, 1989; Roseman, Weist, & Swartz, 1994). Indeed, Roseman refers to some emotions and motivations as “emotivational” states and Fridja identifies action tendencies as definitional elements in emotion. Obviously, we have taken this approach in this paper toward jealousy and parental love. We believe that the prime evolutionary question, at least for the passions, is how did these motivational states evolve; we do not expect to see a different history for the emotions named by the same terms.

We are in sympathy with Russell’s (2003) view of emotion, but we do not quite share it. Russell calls attention to an analogy he sees between the phenomena of emotion and hands of poker. There are names for certain patterns found in poker hands. So five cards in order of the same suit is a “straight flush”. That is, if the pattern of the elements of a particular card hand match certain patterns in the semantics of card terms, we have a name for them. Analogously, Russell suggests, there are elements of emotion: triggering events, facial expressions, subjective experiences, action tendencies, and so on. And if, say, a person happens to have a hostile expression in response to an insult, and wants revenge, then we would say the person is angry. For Russell, this is just like saying that a 4, 5, 6, 7, and 8 of spades is a straight flush. But, and here is the key point, Russell points out that although there are card hands we call a “straight flush” there is no “straight flush-generating mechanism” anywhere; at least in honest games, card hands are generated by a random mechanism. The claim, then, that Tom has a straight flush is *not* a claim about the mechanism that generated Tom’s hand, it is merely a description of that hand. So too, Russell argues, saying that Tom is angry is simply a description of his mental/physical state at the moment and innocent of any causal claim. And, therefore, it would be useless to look for the evolutionary history of that causal mechanism.

As we said, we are in sympathy with Russell’s view, but we do not quite share it. We think there really is a mechanism in the brain that produces desires for revenge in response to perceptions of transgression, and if so we believe this mechanism in the brain has an evolutionary history. We believe there *might be* a mechanism in the brain that produces a desire to guard one’s mate in the face of possible poaching. And that mechanism too has a causal history. We suggest,

however, that these mechanisms link abstract classes of stimuli to abstract classes of responses, they are not links among concrete elements *directly*, though, of course, in each case of an emotion, or its expression, some concrete token must be exhibited (Royzman & Sabini, 2001; Sabini & Silver 1998b).

Lastly, what is at stake in the decision to tie emotion to action rather than to feelings? We have argued that emotions are important constituents of the self, that what emotions a person experiences reveals important aspects of character (Sabini & Silver, 1998a). We would suggest that to the degree that emotions are tied to raw feels rather than to action it is hard to see why emotions have the moral/social significance they do. Removing them from action undermines, we suggest, an important aspect of the self.

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