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The Role of Context in Interpreting Facial Expression: Comment on Russell and Fehr (1987)

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In their article, "Relativity in the Perception of Emotion in Facial Expressions," Russell and Fehr (1987) argued that context is the principal determinant in interpreting facial expressions of emotion. They questioned the biological bases for emotion suggested by Darwin and supported by many cross-cultural studies. We suggest that their results occurred because the target faces they used were emotionally neutral or ambiguous. We also argue that their findings can be interpreted as supporting the communicative importance of the face.

Russell and Fehr's (1987) experiment provides useful additions to our knowledge of facial expression, but we disagree with how they interpreted their findings. The first correction we would make is to their title, which, more exactly, should read "Relativity in the Perception of Neutral or Ambiguous Facial Expressions."

Russell and Fehr have demonstrated that the appearance of one expression (which they call the anchor) can influence the judgment of another expression (the target), particularly when the target is a neutral or expressionless face. Their conclusion was that "A facial expression will be seen as expressing different types . . . of emotion, depending on other faces seen by the observer" (Russell & Fehr, 1987, p. 223). On the one hand, they suggested that the context is more important than the expression; on the other, they used the particular emotional expression of the anchor to predict how the target would be interpreted. Emotional expression is simultaneously so ephemeral when it is the target that context overwhelms it, and so potent when it is the anchor that it alters the perception of other expressions.

In addition to this logical inconsistency, we also examine the question of whether an expression signals accurate information, an issue Russell and Fehr raised in their discussion. First, however, let us consider the theoretical stance they adopted in introducing their interesting report.

Russell and Fehr sided with the "skeptics" about Darwin's view of facial expression, opposing the findings on facial expression reported by Andrew, Buck, Ekman and Friesen, Izard, and Tomkins and McCarter, whose experiments supported Darwin. However, we believe that their experiment challenges neither a Darwinian view of facial expression nor any of the key findings that support that view. To do so requires strong proof that facial expressions signal different information to observers from different cultures, as well as a nonevolutionary explanation of the consistent finding of universality. Russell and Fehr did no such cross-cultural study.

Another claim made by the skeptics who opposed Darwin, in the first half of this century (e.g., Bruner & Taguiri, 1954; Hunt, 1941; Landis, 1924; Munn, 1940), was that facial expressions do not signal much information. Russell and Fehr, however, did not show (a) that observers can't agree in their judgments; (b) that the primary determinant of the message conveyed is something other than faces, such as social context or observer's own emotional state; and (c) that facial expressions provide inaccurate misleading information, uninformative about the conditions antecedent to the expression, the expressor's subjective report, or physiology.

They did show that the specific emotions signaled by facial expressions when seen singly can determine the judgments made when two faces are seen simultaneously or in rapid succession. The judgments of the target face were not randomly but systematically related to the information conveyed by the so-called anchor expression. Russell and Fehr explained that the judgment of a facial expression "is not fixed by its particular physical features but rather how it compares with other expressions" (1987, p. 225). Their effect was most powerful when faces which showed no muscular actions, ones that Ekman and Friesen selected to represent a neutral emotionless baseline, were the targets judged and when the observers were not given "neutral" as one of their response choices but forced to select an emotion word.

Furthermore, we think that their experimental effect is more modest than they do. For example, their Table 2 showed that when a neutral expressionless face was shown next to a face which clearly signaled an emotion, on 16 out of 19 tests, the modal judgment of the neutral face was "calm," a term closer to neutral than the other choices (interested, sad, upset) the observers were allowed. This happened again in Experiment 3. Their Table 6 showed that in three of the four groups "calm" received the highest mean rating for the neutral target face.

The two experiments in which the target expression displayed an emotion rather than being expressionless failed to show that the preceding anchor expression affected the target face judgments. In Experiment 5, where the target was a surprise face, surprise received the highest mean judgment regardless of whether the preceding picture depicted excitement or fear. In Experiment 6 anger was the target face, and again the most frequent observer judgment regardless of the

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preceding anchor expression was anger. The anger picture they used, one Ekman took of spontaneous expression in New Guinea 20 years ago, shows very strongly glaring eyes, produced by the upper eyelid being raised. This muscular action and appearance occurs also with fear and surprise expressions (albeit with different actions in the rest of the face). This may explain why there was a greater influence on the judgment of the anger target when fear and surprise were the anchors, than when the anger target was judged after seeing expressions of sadness and calmness that have no muscular overlap with anger.

Another issue is whether their results validate Russell's (1980) circumplex model of emotion. Although an adequate discussion of this question is beyond the scope of our comment, a few points may be made. Preference for a dimensional rather than a categorical representation of emotion is dictated by one's purpose. If the purpose is to obtain the smallest possible number of dimensions that explains the relation among a set of variables statistically then a dimensional analysis of emotion, such as Russell (1980) proposed, is appropriate. If the purpose is to understand the relations among the biological, expressive, and phenomenological aspects of emotion, then "content" or categorical analyses (Berglund, Berglund, & Engen, 1982; G. Ekman, 1955) are more useful. Multidimensional analyses (Green & Cliff, 1975) support many of the emotion categories we have used in our cross-cultural work, and such categories have been heuristically fruitful and have led to findings about the autonomic nervous system (P. Ekman, Levenson, & Friesen, 1983) and neuropsychological correlates of emotion (Davidson, Ekman, & Friesen, 1986). Dimensional conceptions of emotion have not done this. Russell and Fehr referred to Osgood's semantic differential as evidence of a basic bipolarity in human judgments, but several studies have demonstrated that bipolar factors result only when bipolar judgments are used. Unipolar judgments yield unipolar factors (Green & Goldfried, 1965; O'Sullivan, 1963).

Although Russell and Fehr mentioned some limitations on the generality of their findings, more serious questions can be raised about the applicability of their findings to more usual circumstances. Their facial expressions were frozen, displayed in a still photograph rather than on video or film. The observers saw these frozen faces detached from their bodies, without any voice, with no knowledge of, or involvement in the social context in which an expression occurred. These characteristics are highly unusual, perhaps occurring only when someone looks at faces in a magazine in which the text is in a language one does not understand. This was, of course, the situation in some of Ekman and Friesen's studies, but those experiments were designed for a different purpose, not to determined how "fixed" the expression-to-signal link might be, but whether it differed across cultures, when observers had nothing but an isolated face on which to base their judgments. In our studies of how accurately expressions signal internal state or indicate the experimental condition in which the expression occurred, we have used videotaped, dynamic presentations of faces judged in the context of voice and body, as well as outside of that context, with observers informed and not informed about the entire social context.

Russell and Fehr seemed to misunderstand the paradigm of the accuracy study, which may be why they disparage it. Most writers have used the concept of accuracy (for reviews of accuracy studies see Bruner & Taguiri, 1954; P. Ekman, Friesen, & Ellsworth, 1972; P. Ekman & Oster, 1979; Hunt, 1941) only in experiments in which the observer's judgment of a face can be compared with some independent criterion: For example, can observers tell when an expression was shown, before or after treatment, or during a stressful or nonstressful interview. Judgment accuracy can also be evaluated with posed expressions if one wants to know whether observers can tell what emotion the poser intended to show. Agreement is quite a different matter; it simply refers to whether or not judges agree. Russell and Fehr did not do an accuracy study, because there was no independent criterion against which to evaluate observers' judgments. Their study does not invalidate investigations of accuracy, it only shows that those who do such studies with still photographs—and most do not for the reasons mentioned earlier—should be cautious about the order in which the expressions are viewed, particularly if any of the expressions are expressionless!

We disagree with Russell and Fehr's belief that context is more important than facial expression in the perception of emotion. A more useful statement is that context may—under specified circumstances—play a greater or lesser role in how particular expressions are interpreted. We agree with them that those interested in understanding facial expressions—whether they be emotion theorist, experimentalist, clinician, voter, or jurist—must continue to investigate the circumstances which govern when the face is accurate and when it is misleading as a source of information.

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