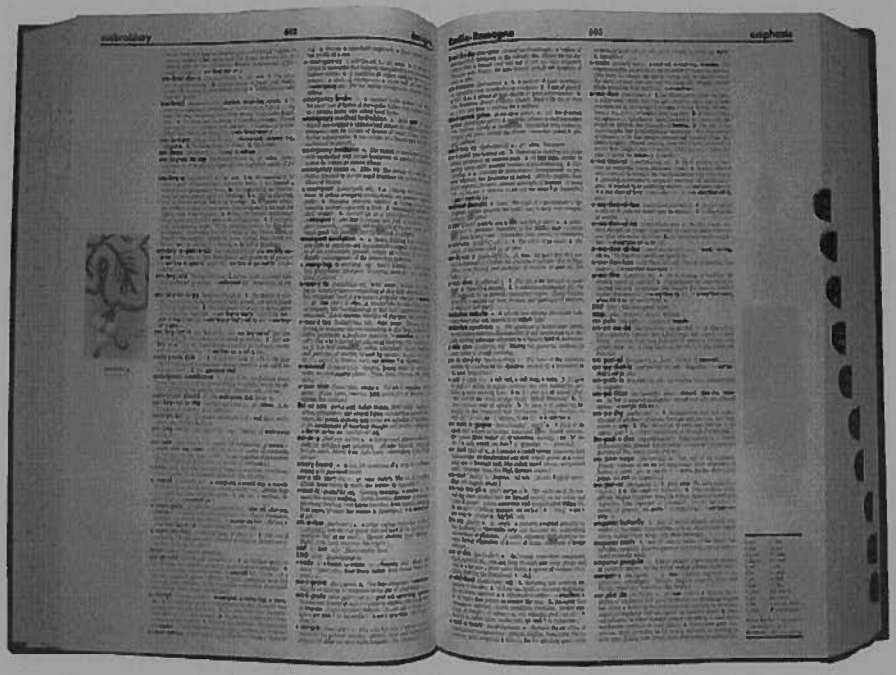
Official Newsletter of the International Society for Research on Emotion

EMOTION RESEARCHER

ISRE

Vol 22, 1-2; Fall/Winter 2006, Spring 2007



The Definition Issue

In memoriam Bob Solomon

Editors' Column

Kim Bard
Randy Cornelius

The idea for this issue came from Lisa Feldman Barrett's provocative lecture "What is an Emotion?" that she delivered on the next to last day of the ISRE conference in Atlanta in August. The lecture was well attended and generated considerable heat during the question and answer period, which, it must be said, proved to be much too brief. Many of us who were at the lecture felt that more needed to be said and so we thought we would devote an issue of *The Emotion Researcher* to the question Lisa posed and the discussion it engendered. (It also seems to be an appropriate time to be discussing the definition of emotion, corresponding as it does with the publication of Nico Frijda's new book, *The Laws of Emotion*.) This fall, we sent out an invitation on the ISRE listserv for ISRE members to send us their own definitions of emotion and received the largest response we have ever gotten to such a query. Because of the large number of responses we received, we are publishing them in this special double issue of *The Emotion Researcher*. Lisa's own submission is included as the first contribution in this issue.

Many of those who submitted definitions of emotion included comments to us in the bodies of their emails. Brian Parkinson, for example, referred to his submission as an "anti-definition." One of the most striking commentaries we received, both for its wisdom and sense of history (or déjà vu), was that by Klaus Scherer. Klaus wrote that he has seen this kind of exercise before and sounded a note somewhere between resignation and optimism about the endeavor. We asked him if he wouldn't mind if we quoted him in our column and he graciously said yes. Since we couldn't say it any better, here is what he had to say:

> The contributions you will receive are likely to raise interesting issues and mention neglected features. However, one wonders whether a multiplication of definition proposals is in the best interest of the field. In 1981, Kleinginna & Kleinginna inventoried around a 100 definitions in the literature and one shudders to think how many must be around by now. It would seem that cumulative scientific effort requires convergence rather than divergence with respect to the definition of the phenomena to be studied. I think that we need to start seriously discussing the definitions (including differential conceptualizations of different types of affective phenomena)

The Emotion Researcher is **the official newsletter of the International Society for Research on Emotion (ISRE).**

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Printing by:
Harmon & Castella Printing, Inc.
164 Garden Street
Poughkeepsie, NY 12601

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that have been proposed in the literature.

We whole-heartedly agree with Klaus's sage advice. As Agneta notes below, there certainly does seem to be some consensus or at least overlap in many of the definitions. Of course, there were those who would not necessarily welcome a convergence of definitions, at least not yet. According to Louise Sundararajan, "I use the term definition in the sense of paradigm, or an implicit schema that guides conceptualizations and research methods of emotion. In this sense the consensus researchers strive for initially should be multiplicity rather than uniformity in definition. Multiplicity of paradigms may well be the first step toward a 'scientific' definition based on consensus among researchers who are well informed of the different paradigms among themselves." We'll leave it up to you to decide whether there is any convergence in the definitions included here and what you might think about it. In any case, we hope the dialogue started here continues.

By the way, Klaus also noted the need to develop an "inventory of references to published definition proposals." If anyone is interested in working on this and publishing it in *The Emotion Researcher*, please let us know.

Preparations for this issue were overshadowed, of course, by the news of Bob Solomon's sudden death. Bob loved a good debate and was one of the respondents at Lisa's lecture; he was also one of the first to respond to our invitation. We thus dedicate this and the succeeding issue of *The Emotion Researcher* to Bob. We will be preparing a special issue of the newsletter on Bob and his contributions to ISRE to coincide with this summer's conference in Australia. If you would like to contribute to this issue, please let us know. Many of us eagerly looked forward to ISRE conferences in anticipation of lively conversations with Bob. His knowledge and understanding of emotions, his wisdom, and his amazing generosity will be greatly missed. We wish to extend our deepest sympathies to Kathy.

Kleinginna, P. R., & Kleinginna, A. M. (1981). A categorized list of emotion definitions, with suggestions for a consensual definition. *Motivation and Emotion*, *5*(4), 345-379.

President's Column

Agneta Fischer

This issue of *The Emotion Researcher* deals with the definition of emotion and was inspired by Lisa Feldman's invited lecture at the Atlanta conference on the ever-present question "What is an emotion?" Many ISRE members have responded to Randy and Kim's call for definitions and, as you will see, the variety of answers is striking. Of course, we cannot think about a definition of emotion without thinking of Bob Solomon, our former president, friend and dear colleague, whom we lost so suddenly. Therefore, we dedicate this issue to Bob.

One of the first books on emotions I read was *What is an Emotion?*, edited by Bob and Cheshire Calhoun, containing readings by philosophers and psychologists. One of the contributions in that classic reader was written by Bob in which he distanced himself from the traditional view in philosophy and psychology that emotions are irrational, primitive feelings, completely opposed to our rational and goal-directed states of mind. He even went so far as to argue that emotion could be seen as a kind of judgment, a judgment that favors a specific perspective on events. Judging something as unfair more often than not is a complete rational judgment, so why downgrade emotions to irrational entities? For me, that was an eye-opener, and I remember having contemplated for months whether all the emotions I experienced (and there were so many!) really were judgments or whether there were exceptions to this argument. And of course, Bob had always thought about the exceptions and what they would mean for his arguments; in his work there was no room for simplistic reasoning. Thus, Bob's work has played an important role in the development of my ideas on emotions and I know that this applies to many of you as well. The next issue of the newsletter will be dedicated to his work (see Editors' Column).

Back to the present issue. Ever since scholars began to attempt to define emotion, there have been fierce debates. The contributions to this issue are not different in this respect: the definitions of

emotions are as heterogeneous as can be expected, which in itself lends support to a constructivist view on emotions.

I can also see some agreement though: a general reluctance against narrow definitions and some fear of possibly excluding something. Thus, most people define emotions very broadly, arguing that emotions are phenomena that comprise many different elements or processes (cognitive, motivational, experiential, physiological, motor expression), occurring at both conscious and unconscious levels. Others, however, try to restrict emotions to one organizing system, such as a mental mode (Ben-Ze'ev), a basic orienting factor (Clarke), a monitoring mechanism (Sloman), a governance process (Frankel), or a psychological binding process (Starkey) that would combine the different elements into an emotion. It is not always clear, however, how strictly such systems or mechanisms can be differentiated from other, non-emotional ones.

Implicit in many—though not all—of these definitions seems to be the acknowledgement that emotions are not just there, out in the open, ready to be observed and examined. We need concepts and theories in order to find, define and study them. This leads some (e.g., Parkinson) to argue that the concept of emotion is simply of no use, because it would suggest that there is indeed one phenomenon or process underlying all emotion, whereas the phenomena that would be included in the concept of emotion have nothing in common. Others (e.g., Parrott), however, plea for tolerance with respect to the concept's fuzziness, and seek to avoid its problems by specifying which processes or elements one studies in which emotions. Considering the current empirical literature, this is exactly what researchers seem to do. There is hardly any empirical research on 'emotions,' but 'emotions' have never been more prominent in the scientific literature. This is a useful pragmatic attitude when conducting research into specific emotions, but it becomes problematic when formulating general theories on 'emotion.' For that reason, each scholar in the area of emotion needs to define emotion over and over again, in order to make explicit which phenomena are being covered by his or her theory. It is hoped that this issue helps and stimulates this endeavor.

Lisa Feldman Barrett

According to the conceptual act model, what people refer to as "an emotion" is really an emergent event that is at once affective and conceptual. The continuously changing streams of affect and conceptual processing mutually constrain one another (much like the seeing "red" is a discrete experience of color that derives from conceptual knowledge of red and a continuous spectrum of reflected light). The result is a psychological event where affect, perceptions of the world, and conceptual knowledge about emotion are bound together at a moment in time, producing an intentional state where affect is experienced as having been caused by some object or situation. Affect is categorized such that the self, the world, and their relation are experienced in a particular way. An instance of emotion may be an example of what Edelman (1989) calls "the remembered present."

The conceptual knowledge that is called forth to categorize affect is tailored to the immediate situation, is designed for action, and is acquired from prior experience and supported by language. When combined, affect and conceptual knowledge about emotion produce a highly flexible system that can account for the full richness and range of experience that comprises human emotional life.

The implication is that emotional events are not, themselves, given by nature. They are psychological events constructed from more basic psychological processes (affect and conceptualization) that are themselves given. People are born with the ability to have affective states and they develop the ability to conceptualize, even if the causes of their affective reactions (what they find pleasant or unpleasant) and the content of their conceptual system (which emotion categories they possess, as well as the knowledge contained in those categories) are learned.

Edelman, G. M. (. (1989). *The remembered present: A biological theory of consciousness*. NY: Basic Books.

Robert C. Solomon

I would say that "Emotion" is a heterogeneous category that encompasses a wide variety of significant psychological phenomena in which we are engaged in the world, sometimes intensely focused, sometimes global, some brief and barely conscious, others protracted processes lasting hours, months, or even years. An emotion may involve conscious experience and reflection or it may pass virtually unnoticed and unacknowledged. It may be profound, essential to survival or to proper ego-functioning, or it may be trivial, merely an interruption, or it can be dysfunctional. An emotion may be socially appropriate or inappropriate, even obligatory, and is essentially associated with behavioral tendencies, which may or may not be overt or controlled. In adult humans, emotions are often manifested in thoughts and images and expressed in articulate judgments and extended plans of action.

Aaron Sloman

The most general concept that fits our fuzzy and indeterminate mish-mash of uses of the words 'emotion' and 'emotional' is: A state in which a monitoring mechanism acquires a tendency (i.e., a disposition, possibly suppressed) to abort, redirect, or modulate some other process or collection of processes. Example: a housefly consuming food detects something rapidly descending towards it, and the 'alarm' mechanism aborts eating and triggers escape behavior. In humans there is a far wider variety of cases involving evolutionarily older and newer mechanisms, e.g., a mathematician working on an important new proof notices the possibility of a fallacy caused by implicit division by zero. This may trigger a disposition to switch to investigating the offending step in the proof. Some of these disruptions can be unconscious—like the people who are jealous or infatuated and don't realize it, though it is evident to their friends. In the obvious cases the tendency is not resisted and some change occurs as a result. In more subtle cases the disruptive tendency may be suppressed or overridden, but it is still there competing for control. [In 1996, Ian Wright, Luc Beaudoin and I published an analysis of long term grief, which is one of the most common examples of a state commonly labeled as an emotion which can endure over time, even while completely different emotions occur, e.g., enjoying a joke, concern about losing one's job, falling in love, etc. Other examples of states that can endure while temporarily suppressed are jealousy, infatuation, anger, concern about one's government's actions, intense support for a political movement, joy at having a new baby, excitement about a research project, and, on a shorter time scale, excited anticipation of a forthcoming event. Theories of emotion that do not allow for the possibility of such phenomena must be false, unless their proponents hi-jack the label 'emotion' by redefining it to suit their theories.] (I personally think that 'emotion' is not a concept that has sufficient precision/clarity/uniformity of usage, to be useful for scientists. There are many *phenomena* that scientists need to investigate that get *called* 'emotions' by various people. But the label just generates confusion and muddle.)

Wright, I., Sloman, A., & Beaudoin, L. (1996). Towards a design-based analysis of emotional episodes. *Philosophy, Psychiatry, & Psychology*, 3(2), 101-126.

Klaus Scherer

In my Component Process Model (CPM) I define emotion as an episode of interrelated, synchronized changes in the states of all or most of five organismic subsystems (cognition, neurophysiological support, motivation, motor expression, subjective feeling) in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism. Emotion-constituent evaluation is described as recursive sequences of appraisal at several levels of

processing (sensory-motor, schematic, conceptual) based on a set of universal criteria. This account allows for an almost unlimited number of differentiated emotional qualities to emerge, depending on the respective appraisal profile and sequence. Verbal labels such as fear, joy, or anger are seen as language-based categories for modal emotions, i.e., frequently and universally occurring events and situations that generate similar appraisal profiles.

Scherer, K. R. (2005). What are emotions? And how can they be measured?" *Social Science Information, 44(4)*, 693-727.
A pdf version of the paper can be downloaded at: http://affect.unige.ch/upload/File/scherer_ssi_what_are_emotions.pdf.

Elaine Hatfield

When I started conducting research into the emotions in the early 1960s, I tended to define emotions very narrowly. Most of us did. Specialists in attitudes often defined emotion as "a positive or negative attitude." Physiologists claimed a tell tale sign of emotion was "sympathetic nervous system activity." Behaviorists denounced such foggy conceptions, insisting scientists should focus on "emotional behavior"—including such things as smiles, furrowed brows, raised fists, and stalking. As scientists grew more sophisticated, however, we gradually began to see that the basic emotions, which had arisen in the long evolutionary march, should be thought of as "packages" involving a number of integrated cognitive, physiological, and behavioral elements. One definition of emotion that I have found to be most helpful in conducting research on passionate love and sexual desire is that offered by Fischer, Shaver, Carnochan (1990):

> Emotions are organized, meaningful, generally adaptive action systems... Emotions are complex functional wholes includeing appraisals or appreciations, patterned physiological processes, action tendencies, subjective feelings, expressions, and instrumental behaviors.... None of these features is necessary for a particular instance of emotion (p. 85).

Today, many social psychologists tend to distinguish between five basic emotions: love (including passionate love, with which I have been primarily concerned), joy, anger, sadness, and fear.

Fischer, K. W., Shaver, P. R., & Carnochan, P. (1990). How emotions develop and how they organize development. *Cognition and Emotion, 4*, 81-127.

Graham Clarke

It seems to me that emotions are a basic orienting factor for all activity. As such they may be seen as grounding activity. Emotions act as a guide to action and relationship. They are evolutionarily coded, socially attuned and culturally inflected. Emotions are an underlying evolutionarily coded feeling about a situation that guides and orients activity. They are an underlying evolutionary coded feeling that provides a basic motivating factor for action. They involve the modification of an underlying feeling of attraction towards or repulsion from some particular object, relationship or situation.

Brian Parkinson

Are there definable things called "emotions"? We need to shake off the presupposition that the English-language noun "emotion" consistently refers to a mental or bodily state with distinctive and intrinsic characteristics. No definition could ever exhaustively cover all actual and possible usages of this word in lay and professional conversations. However, much of what we talk about when deploying approximately emotional language in everyday life concerns temporary processes that align or realign relations between one or more persons and objects or events when there is some degree of initial mismatch, leading to disruption in the flow of co-regulated activity. We should focus on how people are

engaged with objects, events or other people when they become emotional (or present themselves as emotional—which may be something else again) rather than whatever their supposedly private feelings happen to be at the time. Nor should we expect simple one-to-one correspondences between "emotions" and facial movements, bodily changes, appraisals, or action impulses because the same mode of relation-alignment may be implemented in different ways depending on the specific affordances and resistances of the unfolding dynamic environment.

Many forms of evaluative relational activity may never be articulated either as cultural concepts or societal practices relevant to "emotion." Whether psychologists should restrict themselves to emotion categories dignified in any language depends on their specific purposes, but it is certainly true that formulation of psychological episodes in terms of "anger," "fear," "guilt," "embarrassment," "alienation" and so on can bring consequences for how these "emotions" are enacted in the social world. Indeed, some of the psychological episodes to which emotion words are attached involve strategic (though not necessarily self-conscious) presentation of facial, postural, and gestural movements that are culturally recognizable as emotional expressions. For some purposes, then, investigation of the application of emotion words and signals may allow us to delineate some provisional research domain, but this wouldn't necessarily reveal any hidden core or essence to pre-existent emotions themselves (whatever they might be). Order may or may not emerge from concerted research attention to some of the events that we sometimes call emotional.

Arvid Kappas

What is an emotion? Many-splendored things! The term *emotion* refers to numerous heterogeneous processes that serve intrapersonal and interpersonal regulatory functions. These processes are closely linked to motivational states—goals are a major factor for the personal relevance of situations, or events. On the other hand emotions affect goals, preparation for action and actions. Information processing, conscious and outside of awareness, is a major factor in determining the personal implications of situations or events and is in turn influenced by emotions. Behavior, including "expressive behavior," and physiological activity are not only influenced by emotions, but in turn influence emotions via automatic and attributional pathways. In interpersonal interaction, emotions of one individual have a strong tendency to influence emotions of others via markers that are perceived as being informative as well as by intentional communication. Interactants provide mutual reinforcing or regulatory influences. Due to the plasticity of the biological processes involved in emotions, social and cultural context play an important role in defining, eliciting, and regulating emotions in the individual and in groups. In turn, there is an important impact of emotions on social relations, societal and institutional rules and structures, as well as facets of culture. Thus, emotions, and other related constructs, are part of a shell-like network of dynamic feedback processes that range from micro- to macro levels. Similarly, the effects of emotions can be understood at a time scale of seconds, a lifetime, or generations.

Subjectively, feelings—a single component of emotions—provide a sense of coherence to these interdependent facets that transcend bodily systems, individuals, and time. Objectively, this interdependence and the apparent lack of coherence within and across these dimensions render any brief definition of emotion a futile exercise.

Carl Frankel

Only sometimes represented in consciousness as feeling, emotion is a governance process, that is, a process that automatically binds appraisal, motivation and regulation, in real-time, to recruit goal-oriented behavior. (Goal-orientation being central, some prior points about goals: Goals include targeted outcomes, standards, rules, desires, intents and/or purposes. Goals are (a) external, like winning some contest, (b) behavioral, like restraining a shameful, avaricious impulse

to cheat, and even (c) internal states, like feeling less greedy.)

In each of emotional governance's facets, ongoing appraisals of events' personal significance motivate goal-oriented regulatory behaviors.

1. Levels of urgency reflect appraisals of events' priorities. Urgency regulates events' salience.

2. Types of emotion reflect appraisals that characterize salient events through the person's core relational categories (saddening, shaming, schadenfreude-ing, etc.). Emotion types regulate response options under consideration—goal-directed options (homeostasis) and goal-shifting options (allostasis)—so that options relevant to prevailing relational categories are actively considered.

3. Levels of negative and positive valences reflect appraisals of levels of goal-harm and goal-benefit, experienced now and/or anticipated from actively considered response options. Valences regulate arbitration among options, thereby recruiting goal-advancing responses.

4. Levels of confidence /anxiety reflect appraisals of threats of costly error in recruited responses. Confidence/anxiety regulates the amount of ongoing error-checking during response deployment, thereby modulating the compellingness of and commitment to responses.

Its facets taken together, emotional governance functions like an orchestra's conductor, recruiting musicians' performances: no conductor (no emotional governance), eventual chaos; no orchestra (no cognitive and behavioral repertoire), a wild person gesticulating unintelligibly. Arbitrating to prevent negative emotions, worst emotions first, and to promote positive emotions, emotional governance recruits repertoire and resources to prevent goal-harms and promote goal-benefits, advancing goal accomplishment.

Aaron Ben-Ze'ev

An emotion is a general mode (or style) of the mental system. A general mental mode includes various mental elements and expresses a dynamic functioning arrangement of the mental system. The kinds of elements involved in a certain mode and the particular arrangement of these elements constitute the uniqueness of each mode. A given mental mode is not necessarily the complete opposite of another mode; they may differ in a few, but not all features. A mental mode is typically complex, structured, episodic, and dynamic. It is complex since it involves many elements; it is structured in the sense that the elements are arranged in a certain organized manner; and it is dynamic as it typically undergoes changes in the particular manifestations of its constitutive elements, in the kinds of associated elements involved, or in the relationships among them. A mental mode is also episodic as its duration is limited. Basic mental modes are the emotional, the perceptual and the intellectual modes.

The emotional mode involves the activation of certain dispositions and the presence of some actualized states. It also includes the operation of various mental capacities and the use of different kinds of intentional references. This mode involves cognition, evaluation, motivation, and feeling. The emotional mode is the most comprehensive mode since it typically involves more types of mental elements than any other mode. Constitutive elements of the emotional mode are cognition, evaluation, motivation, feeling, instability, great intensity, partiality, and brief duration.

Ben-Ze'ev, A. (2004) Emotions as a general mental mode. In R. Solomon (Ed.) *Thinking about feeling: Contemporary philosophers on emotion* (pp. 250-268). New York: Oxford University Press.

Robert E. Thayer

An emotion is a state of arousal with a cognitive component. In particular, the arousal state represents a combination of Energetic and Tense Arousal (similar to Positive and Negative Affect or Pleasantness and Activation) and the cognitive component is a subjective interpretation of this arousal

derived from the context of the situation. For example, when we are in a happiness-eliciting situation and we experience heightened energy and reduced tension we may label our subjective emotion as happiness. When arousal states are assessed cross-sectionally, Energetic and Tense arousal are orthogonal (independent), but considering change they are positively correlated from low to moderate levels and negatively correlated from moderate to high levels. For example, moderately increased tension may raise energy but high tension likely will result in an energy decrease. I call these states tense-energy and tense-tiredness. Alternatively, calm-energy or calm-tiredness may occur with high or low energy together with low tension. Familiar emotions such as anger probably represent tense-energy while depression represents tense-tiredness. There are physiological/ biochemical underpinnings of these arousal states, including muscle tension as an important part of subjective tension, as well as sympathetic and parasympathetic activation that underlie both kinds of arousal. Specific brain systems, including neurotransmitters and neuro-modulators also are important although not fully understood at the present time.

Anna Wierzbicka

The question "What is your definition of emotion?" begs a question: "What is your definition of definition?" In normal usage, "a definition is [as the *Collins Cobuild English Dictionary* puts it] a statement explaining the meaning of a word or expression." 'Emotion' is an English word, relatively recent (in the relevant sense) and without semantic equivalents in most other languages of the world. It does need to be defined (to be able to be used as an analytical tool), but it should not be reified. Unfortunately, the illusion that 'emotion' is a language-independent phenomenon, rather than a construal put on human feelings by the modern English word 'emotion' dies hard.

To define any word without an infinite regress, we need some indefinables. As colleagues and I have argued in many publications (see, e.g., my book *Emotions Across Language and Cultures*), if we want to have a language- and culture-independent perspective on people's lives, we need to rely on universal semantic primes, like FEEL, THINK, HAPPEN and BODY, rather than on reified English concepts like 'emotion.'

Modern English language distinguishes 'emotions' from 'sensations.' Essentially, 'emotion' links 'feelings' with 'thoughts,' as well as with the body, whereas 'sensation' links them only with the 'body,' without any reference to 'thoughts.' So here is my proposed definition of 'emotion:'

> someone feels something because this someone thinks something is happening in this someone's body because of this

By offering this definition, I am not proposing to "cut nature of its joints," but to articulate, from a universal perspective, the meaning of the English word 'emotion.' We can continue to use this word whenever convenient but we also need to understand it—and to beware of it.

Wierzbicka, A. (1999). *Emotions across languages and cultures: Diversity and universals*. New York, NY, US: Cambridge University Press.

Marla Magoula Adamos

Emotions as Unities of Form and Matter. Although I agree with most theorists that an emotion is a multifaceted phenomenon, which typically involves cognitive evaluations (with their relevant desires and intentional behavior), as well as bodily changes and feelings, I also believe that an essential aspect of emotion that is often ignored in the literature is its intentional pleasure or pain. When we feel a joy for winning the lottery, it is not that we simply have a certain belief and bodily feelings. It also feels good. That is, there is a particular pleasure in our joy. Without it, joy would not qualify as joy.

Yet, an adequate account of emotion should also be able to answer the question: "How are the diverse aspects of emotion related in order to form the emotion—as opposed to the mere co-existence of different mental states?" Given that causal accounts

ultimately fail because they conceive the relations between the aspects of emotion as empirical and external, it follows that only internal, conceptual relations can solve the problem. I suggest that the answer can be found in Aristotle's form and matter distinction and the relation between them. Seen in this light, the characteristic intentional pleasures and pains of emotions, along with their other intentional elements (beliefs, thoughts, desires, etc.), are the form of the emotion, whereas the bodily feelings are their matter. Form and matter constitute a conceptual unity, which cannot be accounted for in conglomeration accounts that see emotions as mixtures of different parts related only through efficient causation.

Louise Sundararajan

A Chinese Definition of Emotion. A classical Chinese definition of emotion is found in *The Doctrine of the Mean*: "While there are no stirrings of pleasure, anger, sorrow, or joy, the mind may be said to be in the state of *equilibrium*. When those feelings have been stirred, and they act in their due degree, there ensues what may be called the state of *harmony*" (Legge, 1971, p. 384; emphasis in the original).

The Chinese don't seem to notice the discrete emotions—they see an ensemble instead, a chorus of mutually enhancing and inhibiting notes that drive an equilibrium so sonorous that you can hear it even in the most quiescent moment. This notion of a dynamic equilibrium suggests, with Russell (2003), that emotion is not a "thing," but an inference, in other words, a semiotic sign. However, contrary to the conventional view of sign as a mental picture or "perceived pattern of configuration" (Russell, 2003), the harmony paradigm shares with Charles Peirce the notion of sign as action rather than perception, more specifically, as sign action characterized by a matrix of interaction among multiple elements with a distinctive "reflexive undertow" (Wiley, 1994), as evidenced by the pervasive feedback loops between its terms/subsystems. This perspective finds support in Humphrey's (2006) claim that perception and feelings about experience constitute separate information pathways; that the feedback loops (a) constitute the organism's self monitoring function, (b) give rise to the subjective feeling of experience, and (c) make possible consciousness of temporality, which is an integrated whole, in which current experience, past memory and future expectations elide into one another in a semiotic moment, giving rise to "thick time" consciousness. The harmony paradigm suggests that, to the extent that emotion is characterized by wholeness and complexity down to the last drop, the scientifically isolated, decontextualized, and atemporal phenomena harvested in the labs of affective science are properly called "affects." Although there is no empirical evidence that these so-called "psychological primitives" actually build, atom by atom, the complex phenomena of emotion, affects are interesting and informative in their own right.

Humphrey, N. (2006). *Seeing red: A study in consciousness.* Cambridge, MA: Belknap Press.

Legge, J. (Trans.) (1971). *The Doctrine of the Mean.* In *The Chinese Classics*, Vol. I (pp. 382-434). Taipei: Wen Shih Chi. (translation first published 1893).

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110*, 145-172.

Wiley, N. (1994). *The semiotic self.* Chicago: University of Chicago.

Charles Starkey

A Binding Theory of Emotion. I contend that the core feature of emotion is the psychological "binding" of three components: affective arousal, cognition, and relational theme information.

Affective arousal. Emotions are characterized by coordinated physiological changes, which can include changes in skin conductance, heart rate, facial expression, visceral responses, and feelings of the experience of these changes.

Cognition. Paradigm emotions involve cognitive recognition of objects (including events, and states of affairs) at which the emotion is directed. However, the cognitive component is not necessarily an explicit or implicit appraisal of

the object of the emotion. Cognitive appraisals may be the product of the emotional state rather than the elicitor or component of an emotional state.

Relational theme information. Emotions involve the activation of a psychological mechanism that is attuned to detecting relations to the environment which bear upon fundamental concerns and which trigger emotional responses when such relations are present. These types of concerns are identified in Lazarus' list of core relational themes. The relational theme mechanism is responsive to a limited number of relational themes, and the differentiation of these relations in emotional states indicates that its activation provides information about the particular relational theme at issue in a given emotional state. This theory is recommended by its ability to differentiate the category of emotion from other psychological traits, differentiate specific emotions types from each other, explain the relation between emotions and concomitant physiological and cognitive processes, explain the intentional nature of emotion, and be consistent with the functional characteristics of emotion.

H. Allison Bender, Aleksey I. Dumer & Joan C. Borod

A Neuropsychological Approach to Defining Emotion. *Emotion* is a complex phenomenon discussed from multiple perspectives. Regardless of their orientation, most emotion researchers would likely agree that *emotion* is a response to an evocative stimulus involving cognitive appraisal, subjective experience, physiological arousal, motoric behavior, and goal-directed action (Plutchik, 1984). In view of this complexity, a hierarchically-arranged, interdependent, neuropsychological model of emotional processing (Borod, 1993; Borod et al., 2000) attempts to systematize the study of emotion by considering each response in terms of several parameters/components. These include: processing mode (e.g., perception and expression); communication channel (e.g., facial and prosodic); emotional dimensions (e.g., arousal and valence); and discrete emotion (e.g., happiness and sadness).

Early neuropsychological research on emotion contributed much toward tying these components with neuroanatomical and neurophysiological systems at cortical, subcortical, and limbic levels (Borod, 2000), generating a number of hypotheses. For example, the right hemisphere hypothesis stipulates that the right cerebral hemisphere has a specialized capacity for emotional processing, regardless of emotion type (Tucker, 1981). In contrast, the valence hypothesis designates the right and left hemispheres as specialized for negative and positive emotions, respectively (Sackeim et al., 1982). More recent evidence suggests that although these hypotheses account for many findings, the neuropsychology of emotion is much more nuanced. Thus, the activation of neural structures that have been consistently linked with emotional processing differs depending on various parameters (e.g., stimulus characteristics [Adams et al., 2003] and elicitation context [Davidson et al., 2000]). Challenging the notion of a neat mapping between linguistic categories of discrete emotions (e.g., "fear") and corresponding neural substrates (Barrett, 2006), these findings suggest that it may not be possible to find a linguistic definition of emotion that is equivalent to its neurobiological definition.

Adams, R.B. et al. (2003). Effects of gaze on amygdala sensitivity to anger and fear faces. *Science, 300*, 1536-1537.

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Jim Averill

Emotions form a heterogeneous family: No essential feature (e.g., evaluative judgment, neurophysiological response, expressive reaction, or feeling state) is definitive of all emotions, or even of the same emotion on all occasions. Still, some general statements can be made. Depending on the context, emotions can be defined as *folk-theoretical constructs* (everyday explanations of behavior—"I did it because I was angry [afraid, in love, or whatever]"), as *behavioral syndromes* (coordinated sets of responses, each with an etiology—typically the appraised instigation—and developmental course), as *episodic dispositions* (time-limited tendencies to respond in a manner indicative of the syndrome), or as *transitional social roles* (recognizing cultural beliefs and rules as organizing principles, along with biological predispositions and individual experience). Regardless of context, emotions traditionally have been interpreted as *passions* rather than actions, that is, as something that happens to us rather than something we deliberately do. That interpretation, however, does not imply that in terms of underlying processes emotions are beyond personal control. Functionally, on a biological level, emotions are impulsive (but not automatic or predetermined) responses that further group survival, sometimes at the expense of the individual (as in some grief reactions); on a social level, emotions help reinforce the social norms implicit in their organization, also sometimes at the expense of the individual (as in some mourning practices); and, on an individual level, they help restore equilibrium in situations that tax a person's normal coping resources. To all statements, the caveat must be added: "Some emotions more than others, and a few, not at all"—every family has its black sheep.

Manfred Holodynski

I define an emotion from a developmental perspective:

I. An emotion is a dynamic psychological system embedded within the individual's activity regulation as a whole that develops from "precursor emotions" in neonates to "fully functioning emotions" in adults. The function of an emotion is to regulate the motive-relevant aspects of actions. It is made up of four components: appraisal, expression, body regulation, and feeling. We conceive their *functional* interrelations in the form of a modified feedback model. Put more precisely, we define a "fully functioning" emotion as a self-organizing mental system that (1) appraises the significance of internal or external context-embedded causes in terms of the satisfaction of own motives, and (2) triggers adaptive expression and body reactions that (3) are perceived subjectively as a feeling through body feedback and related to its cause, so that (4) motive-serving actions are (or can be) triggered either by the person himself or herself or by an interaction partner.

II. For example, when a young boy experiences the emotion pride, the motive-relevant appraisal consists in the attainment of a normative standard through his own action; it expresses itself in self-enhancing expressions (e.g., erect posture, impulse to present oneself to others) and body reactions (e.g., body tension); and the resulting feedback provides the subjective somatic marker for the subjective feeling of pride and is directed toward its cause (e.g., a successful exam), triggering actions that will help this feeling of pride to persist.

III. According to this definition of emotion, neonates do not have such

elaborated emotions, but "precursor emotions" that (1) are triggered by pre-adapted stimulus configurations and not by the particular relational meaning of the perceived causes of the emotion, (2) the triggered expression and body reactions are not yet oriented toward the cause of the emotion and the caregiver and (3) all motive-serving actions have to be carried out by the caregivers.

VI. It is only when the caregiver provides an appropriate interpretation to the still unfocused infant expression and body reactions, mirrors this in his or her own expression in the form of exaggerated expression signs, and responds promptly with motive-serving coping actions, that the infant's precursor emotions are augmented to form completely functional motive-serving emotions. The infant emotion process is accordingly initially shared between child and caregiver. They act together as a co-regulative system.

V. We consider that this developmental mechanism can be used to explain how, starting with a few precursor emotions (distress, interest, endogenous pleasure, disgust, and fright), a range of new emotion qualities emerge, such as pleasure, joy, affection, amusement, frustration, anger, defiance, fear, surprise, sorrow, sadness, and embarrassment.

Holodynski, M. & Friedlmeier, W. (2005). *Development of emotions and emotion regulation*. New York: Springer.

Agneta Fischer

An emotion is a general label for the psychological process elicited in reaction to a stimulus (either in the environment, but it can also be a recollection, or a bodily symptom). The fact that it is a reaction to a stimulus differentiates it from moods, feelings or affect. These processes prototypically entail cognitive, motivational, non-verbal, physiological and behavioral components, although the presence of all of these components is not a necessary requirement for people in order to call it an emotion (e.g., guilt). However, an emotion is more than just a positive or negative feeling in relation to something, and should always include both a cognitive (appraisal) and a motivational component (action readiness). A crucial aspect of most emotions is that emotion is a process that also evolves in reaction to the social environment. Thus, (expected) reactions of others to the stimulus or to one's own reaction are important factors in how the emotion process is gradually shaped.

Kristján Kristjánsson

I still think that nothing beats the Aristotelian understanding. Aristotle defines the emotions as those things on account of which "people come to differ in regard to their judgments, and which are accompanied by pain and pleasure" (1378a20–22). In speaking of pain *and* pleasure, Aristotle may want to emphasize that the two are not mutually exclusive in a single emotion; anger, for instance, includes both, although the pain is more salient there (1104b13–16).

Aristotle tends to be considered the grandfather of cognitive theories of emotion. Contemporary cognitive theorists are often accused of being overly focused on the cognitive and conative components of emotion and ignoring or underestimating the affective element. If we accept as a defining feature of cognitive emotion theory that it relegates to a side issue the way emotions *feel*, then Aristotle is not really a "pure" cognitive theorist. Notice that he specifies all emotions as being necessarily accompanied by pain (*lupē*) or pleasure (*hēdonē*), which are sensations rather than beliefs or judgments.

For Aristotle, the sensations of pleasure or pain provide the "material conditions" or physiological substrates of emotions in which the natural scientist would be interested; whereas the relevant cognitions provide the formal conditions or "formulable essence," which will interest the dialectician (403a25–403b7). Because the sensations of pain accompanying different painful emotions are phenomenologically indistinguishable, however (and *mutatis mutandis* for the pleasant ones), the cognitive consorts

(Aristotle's formal conditions) set them apart.

W. Gerrod Parrott

Emotion may refer to and evaluate any portion of a cluster of related phenomena. The concept is broad and polysemic because its meaning has changed over time and because these meanings have accumulated rather than disappeared. The meaning keeps changing because our culture, interests, and knowledge keep changing. Despite its imprecision, it remains a useful concept because its disparate referents and connotations are interrelated and because they help connect different research questions and levels of analysis. Therefore, it is worth tolerating the concept's fuzziness. To do so, researchers must specify what aspects they are focusing on, must realize that subcategories will often be better suited to academic research, and must try to keep other researchers' interests in mind and avoid claiming the whole category of *emotion* for their own concerns.

Thus, my definition of *emotion* is not so much a definition as a framework for integrating all the things that researchers and ordinary folks need *emotion* to be. Emotions generally involve evaluative appraisals of events or objects. They tend to be associated with distinctive motivational states or action tendencies. They traditionally include fear, shame, joy, jealousy, anger, and such. If there is a better example of a category defined by prototype and family resemblance, I don't know of it.

Gerald Clore

Whereas moods are affective states, emotions are differentiated affective states with objects. In this definition, "affective" specifies that the states are evaluative; that is, they concern the goodness or badness of something, and "states" exist when multiple systems of the organism represent the same conditions at the same time. Thus, specific emotions exist when multiple systems simultaneously reflect a specific kind of goodness or badness in the same object. Emotions therefore are nothing but the convergence of multiple representations of evaluation. They are thus emergent, which entails that they exist only as long the partially redundant evaluative representations that comprise them are active. Emotions are thus not thoughts, feelings, expressions, actions, or desires, nor are they patterns of brain or autonomic activation, hormone secretions, or muscle potentials. Rather, they are the convergence of some of these evaluative representations. As opposed to moods, emotions are differentiated or structured reactions that convey value and urgency information about something. There are many emotions in part because there are several different and incommensurate sources of evaluation (e.g., utilitarian goals, moral standards, aesthetic tastes). In addition to these different kinds of goodness and badness, the structure of specific emotions reflect the structure of important personal and interpersonal situations that animate organisms encounter.

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