

Running Head: The OCC Model of Emotion

Psychological Construction in the OCC Model of Emotion

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Abstract

This article presents six ideas about the construction of emotion: (1) Emotions are more readily distinguished by the situations they signify than by patterns of bodily responses. (2) Emotions emerge from, rather than cause, emotional thoughts, feelings, and expressions. (3) The impact of emotions is constrained by the nature of the situations they represent. (4) In the OCC account, appraisals are psychological aspects of situations that distinguish one emotion from another rather than triggers that elicit emotions. (5) Analyses of the affective lexicon indicate that emotion words refer to *internal mental states focused on affect*. (6) The modularity of emotion, long sought in biology and behavior, exists as mental schemas for interpreting human experience in story, song, drama, and conversation.

(120 words)

What would you most want to know about other individuals before deciding whether to vote for them, negotiate with them, or marry them? Arguably, the most important thing to know is what they care about, what moves them. If one were to design a surrogate person, a robot, or what computer scientists refer to as a “believable agent,” it would not be enough to provide her eyes that see, ears that hear, and muscles that move. Animate agents must also be able to select what they look at, listen to, and move toward. They need to have affective reactions. In living beings, such reactions occur at multiple levels, from the neurochemical to the behavioral. Affective reactions are evaluations that may be embodied, expressed, experienced, and enacted. The necessity of affective reactions for behaving organisms is evident in research ranging from studies of brain damage (Damasio, 1994) to studies of emotional intelligence (Salovey & Mayer 1990).

In contrast to isolated affective reactions, emotions arise when evaluations of the same thing occur in different modalities at the same time. Emotions are thus states emerging from the co-occurrence of multiple, partially redundant, affective reactions. Fear, for example, involves not isolated elements, such as fearful thoughts or wide-eyed facial expressions, but multiple representations of the same threat as thoughts, feelings, inclinations, expressions, and so on. The resulting affective chorus can be powerful, commanding attention and altering agendas for thought and action.

This article describes one view of emotions and how they arise. It focuses on issues of whether emotions are elicited or constructed, whether there are only a few modular emotions waiting to be triggered by particular stimuli, or whether emotions are emergent states, limited in number and variety by the number and variety of the psychological situations they represent. The article features the latter view, that emotions are multi-modal representations of particular kinds

of important situations, some of which are faced by all animate creatures, others of which are unique to humans by virtue of our cognitively complex and hyper-social nature.

The editor has posed six questions, which are answered in order. The response to the last question focuses on a function of emotions that has been largely ignored. It suggests that the long-sought modularity of emotion may be a chimera existing not in emotions themselves, but in emotion concepts. Psychologists have been looking in the body for what exists partly in our minds. It seems that shared prototypes of emotions play a pivotal role in structuring people's experience, and that these schemas of emotion organize individual and collective thought, memory, and communication. But we are getting ahead of ourselves. Let us take the questions in order.

Question 1. *Why is a psychological constructivist approach useful for understanding emotion?*

There appears to be less evidence for the integrity of specific emotions than is commonly assumed. Years ago, Peter Lang (1968) found that physiological, cognitive, and behavioral measures of fear show little convergence. His discovery was puzzling and difficult to square with what investigators thought they knew. When pressed, theorists tended to voice the faith that perhaps better measures would eventually lead to better results. Decades later, despite more and better measures, some argue that the multivariate convergence assumed by traditional conceptions of the emotions has yet to appear (e.g., Barrett, 2006; Barrett et al., 2007; Lindquist et al., 2012).

Should one assume then that specific emotions do not exist? No, but perhaps some long-standing assumptions about them should be re-examined. Rather than the small set of basic emotion modules with biological, experiential, and behavioral signatures, there may be many

emotions, arising from rather than causing bodily, expressive, experiential, and behavioral reactions. Consistent with a constructivist approach, we have proposed in previous papers that emotions are emergent conditions reflecting multiple modalities of affective reactions to psychologically important situations. Hence, the answer to the first question to be addressed focuses on the psychologically significant *situations* that emotions signify, and the answer to the second question focuses on the other chief feature: *emergence*.

Situations.

To what extent is it possible to differentiate the most common emotions from each other? General emotional involvement can be measured by skin conductance and heart rate variability, but some reviews have found little evidence that such measures distinguish specific emotions at least when considered singly (Cacioppo, et al, 2000). For a time, facial expressions appeared to be the gold standard for differentiating emotions. The most impressive results, however, came from studies of posed expressions. Thus, although stereotypic ideas about emotion might be universal and allow people to correctly classify caricatures of emotional expressions, naturally occurring emotions often involve no facial expressions, so that their role as reliable markers of emotions is less clear than formerly assumed. Indeed, studies of facial electromyography do not appear to show the patterns of facial muscle potential expected for specific emotions (Cacioppo, et al, 2000). Further, emotions are not marked by distinctive behaviors or even by reliable patterns of feeling (Barrett, 2006). Whereas all of us believe that we can tell the difference between our own anger and fear, our ability to distinguish the feelings actually turns out to be disappointing. Apparently, knowledge of the situations in which feelings, facial expressions, or voices are experienced plays a bigger role in telling us what we are feeling than previously realized (e.g., Barrett & Kensinger, 2010), Russell, Bachorowski, & Fernandez-Dols, 2003).

Many assumed that affective neuroscience would rescue the study of emotion from this untidiness. However, a recent meta-analysis of the imaging results concludes that the evidence that specific emotions have specific locations in the brain is not strong (Lindquist, et al, 2012).

Together these reports have left some to conclude that the emotional emperor has no clothes. To the extent that readers concur in this reading of the evidence, an alternative possibility is a constructivist approach (e.g., Gendron & Barrett, 2009), the topic of this special issue. But before proceeding, it should be noted that many disagree with the need for revision. If the relationship between a specific emotion and its indicators is probabilistic, for example, then it could be argued that variation should be expected. In addition, some reviews do find evidence of psychophysiological correlates of specific emotions when an expanded list of measures are included and patterns are assessed (e.g., Kreibig, 2010). Similarly, some do find evidence for pan-cultural emotional expressions (e.g., Matsumoto, Keltner, Shiota, O'Sullivan, & Frank, 2008), and others report evidence for coherence among expressions, experiences, and physiology for some emotions (e.g., Mauss, Levenson, McCarter, Wilhelm, & Gross (2005). Suffice it to say that although we are inclined to favor alternatives to traditional approaches to emotion, it is important to note that the issue is far from settled.

A slightly different approach is to focus less on emotions as particular patterns of responses and more on the situations they represent. A conclusion that is not contested is that emotions can be differentiated in terms of the kinds of situations in which they occur (Barrett, 2006). Indeed, appraisal theories show considerable consensus concerning the situations represented by specific emotions (e.g., Ortony, Clore, & Collins, 1988, Roseman, 1984; Smith & Ellsworth, 1985). The model proposed by Ortony, Clore, and Collins (commonly referred to as the OCC model) distinguishes 22 emotion types differentiated by the psychologically significant

situations they represent. It distinguishes emotions involving a focus on events from those focused on actions and those focused on objects. Emotions concerned with *outcomes of events* are distinguished by such factors as whether they concern one's own (e.g., sad) or another's outcomes (e.g., pity), and whether they involve prospective outcomes (e.g., fear) or known outcomes (e.g., grief). Among emotions focused on prospective outcomes, some concern whether such prospects have been realized (e.g., satisfaction, fears confirmed) or not (e.g., disappointment, relief).

But not all emotions are about the *outcomes of events*. Some concern the *agency of actions*. These emotions involve appraisals of actions as praiseworthy (e.g., pride) or blameworthy (e.g., shame). Within this focus, it matters whether a praiseworthy or blameworthy action is one's own (e.g., pride, shame) or another's (e.g., admiration, reproach).

In contrast to event-focused and action-focused emotions are emotions focused on the *attributes of objects*. These object-focused emotions differ primarily in terms of whether the attributes of the objects are appealing (e.g., love) or unappealing (e.g., disgust).

These categories of emotion hinge on different kinds of good-bad distinctions, so that one can be happy or sad about outcomes, can be proud or ashamed of actions, and can like or dislike objects. The distinctions allow 22 different emotion types to be characterized (e.g., fear, anger), but in addition one can distinguish many tokens of a particular emotion type. Thus, tokens of the fear type include fear-like states that are more cognitive (e.g., worry) or physical (e.g., jittery), that are mild (e.g., concern) or intense (e.g., terror), and so on.

The OCC model is one of several appraisal theories that arose in the 1980's. Whereas attempts to distinguish emotions in terms of outputs or symptoms alone may be problematic, an

advantage of the OCC and other appraisal approaches is that they distinguish emotions in terms of their core situational meanings, which is both straightforward and reliable (Lazarus, 1991).

Several aspects of the OCC model also make it compatible with constructivist approaches. For example, appraisal theories often treat the key aspects of situations as “triggers that cause an emotion to fire, as though emotions, like bullets, are entities waiting to burst forth. A constructivist view might instead view emotions as variable sets of reactions for coping with particular kinds of situations. The issue then becomes how organized, routinized, and stereotyped such responses are; whether they are fixed or variable, modular or situated.

Appraisal theories vary in whether they emphasize structure or process. Appraisal is often assumed to be a process that must transpire before an emotion can occur. Appraisals are also sometimes assumed to occur in a fixed sequence (e.g., Scherer, 1984). But the OCC model is an appraisal account that focuses solely on structure, a descriptive rather than a process model. It specifies the features of the prototypical situations represented by each kind of emotion, but it says nothing about how appraisals are made.

For appraisal theories that do make processing claims, a potential problem is the general tendency for psychologists to couch explanations solely in bottom-up terms. For cognitive appraisal theories, a bottom-up approach can be a particular problem because, if cognitive processes come late in the processing chain, they should be too slow to cause rapid emotional reactions. One response has been to challenge the idea that appraisal processes are slow (Moors, 2010). Another is to emphasize that elements of emotion often come pre-appraised. Rather than being generated by a bottom-up process in which a situation is evaluated from scratch, emotions may emerge from top down, heuristic, or associative processes (Clore & Ortony, 2000). Still another approach assumes that early affective information is iteratively reprocessed to become a

fully differentiated emotion only after a number of iterations allow sufficient contextual processing (Cunningham & Zelazo, 2007).

One important consequence of characterizing emotions in terms of the situations they signify is that it leaves open questions about responses. When do people represent an emotional situation facially, in thoughts, in feelings, or in psychophysiological responses? Specific emotions do constrain such responses, thus fear situations should elicit a different range of reactions than some other emotional situation. However, exactly how one reacts in a fearful situation should differ as a function of whether the feared object is a bear in the woods or a pink slip at work. Whether a facial expression is involved, for example, may depend on whether someone else is present to receive such a communication. Similarly, psychophysiological reactions to bears and pink slips should also differ. A bear might require immediate action necessitating heart rate and blood pressure changes, but a pink slip does not have immediate action implications, so autonomic reactions might be minimal (Coan, 2010). In other words, the particulars of emotional responses are likely to vary with the particulars of the situation, which is to say that emotions are situated. This aspect is characteristic of a constructivist orientation but also characterizes appraisal theories. Lazarus (1991), for example, talked about assessing the ability to cope with the specifics of a situation as secondary appraisals.

An emphasis on inputs rather than outputs and situations rather than symptoms helps explain how humans can have more varied emotions than other animals despite their biological similarity. Traditional logic dictated that our shared physiology should yield a set of basic emotions. In that view, since real emotions are rooted in mammalian physiology, the many additional emotion-like states that humans report must be cognitive-linguistic embellishments of the basic emotions.

Such arguments might be persuasive if we defined emotions in terms of output patterns alone. But if characterized in terms of the situations they signify, we should expect the number and variety of emotions in a species to map the number and variety of situations they face. But, whereas we share some emotional responses with cats, dogs, and squirrels, the number of situations that animals can differentiate is dwarfed by the range of emotional situations that humans perceive, anticipate, and imagine.

The argument is not, of course, that emotions *are* situations, but rather that emotions are embodied, enacted, and experienced representations of situations. Specific emotions surely do involve patterns of physiology, neurology, experience, expression, motivation, and so on. But the evidence to date indicates that the variation in these responses within a particular kind of emotion may be too great to discriminate among emotions on such bases. It would also be fruitless to try to discriminate specific diseases using only temperature variation or pain reports by themselves. Could one do so if one combined the weak patterns within each output to form meta-patterns? Perhaps, but even when distinctive patterns of symptoms do appear, diagnoses are generally deferred pending tests for the relevant pathogen. Thus, amoebic dysentery is not a combination of responses such as elevated temperature, stomach cramps, and diarrhea. Rather the condition is amoebic dysentery when temperature, stomach cramps, and diarrhea are present in response to a particular amoeba. Similarly, fear is not elevated skin conductance, activation of the amygdala, or a widening of the eyes either singly or jointly. Fear refers to those kinds of symptoms when they point to displeasure concerning threat. Note too that the presence of threat without any symptoms is not fear, just as relevant amoebas alone do not equal amoebic dysentery. That is, emotion is neither a particular situation nor a particular pattern of response by

itself. Like a disease, emotion exists when relevant output is occasioned by relevant input, particular pathogens in the case of diseases and particular situations in the case of emotions.

2. *What are the psychological ingredients that give rise to emotion? Do they have independent effects, or do they interact in some way?*

Ingredients

Ambulatory organisms have a variety of capacities for perceiving and representing their environments, but one of the most important of these is the ability to make evaluations. Whereas cognition involves categorization, emotion concerns evaluation; that is the key ingredient in emotion is the appraisal of something as good or bad in some way. More generally, affective reactions are evaluative reactions that can be expressed in multiple modalities, including affective thoughts, feelings, and expressions.

Affective reactions vary in valence and in arousal, which signals the urgency or importance of a situation. Emotions, however, involve more than valence and arousal. It is the context in which they occur that turns affective reactions into specific emotions. That is, emotions are situated affective reactions, meaning evaluations of specific objects in a specific context with respect to specific goals, standards, or tastes. Whereas general affective reactions simply specify that *something* is good or bad *in some way*, in emotions, the “something” and the “some way” are specified.

If emotions are affective states directed at particular objects, they can be contrasted with moods by the relative salience of such objects. The objects of moods, if any, are not salient, so that the affect of mood remains unconstrained in meaning. Since moods do not seem to be about anything, they can potentially be about everything. That is, the absence of constraints leaves

moods with little cognitive structure, whereas the structure of emotions directly reflects the situations they represent (see also Lerner & Keltner, 2000).

Emergence

Emotions are states that emerge when psychologically significant situations are represented in multiple modes at more or less the same time (Clore & Ortony, 2000). These might include physiological, experiential, cognitive, and behavioral modes of representing such situations. Emergence occurs when multiple, partially redundant representations of something occur simultaneously. One instance of emergence is stereopsis. When visual images from slightly different perspectives co-occur, a multi-dimensional representation emerges. That is, we see the world in three dimensions, even though each eye supplies only a two-dimensional representation. The key is that the images are too similar to keep separate but too different to collapse. What results is a model of a visual object that retains both the redundant and the discrepant information. In a related way, co-occurring sounds from different angles result in the emergence of stereophonic or three-dimensional sound. Similarly, co-occurring cognitions from different perspectives is a possible basis for the emergence of consciousness (Johnson-Laird, 1983).

Our point is that the co-occurrence of multiple representations of the same evaluation of a psychological situation results in the emergence of an emotional state (Clore & Ortony, 2000; Coan, 2010). Thus, if a threat situation were represented at more or less the same time in a person's thoughts, facial expressions, psychophysiology, and inclinations to act, then the person is afraid. In this view, thoughts of bad outcomes, widened eyes, and elevated skin conductance in isolation, even in response to threat would not constitute an emotion. What is required for fear is the co-occurrence of two or more slightly different threat representations. Otherwise, one simply

has thoughts about threat, wide eyes, or elevated skin conductance. Their co-occurrence as representations of threat is what constitutes a state of fear, in this particular view of emotion.

James Coan (2010) has offered a very useful discussion of the measurement models underlying an emergence model of emotion in contrast to the latent state model underlying traditional approaches. Rather than physiology, expression, cognition, and experience being indicators of a latent state of emotion, emotional states are seen as the result of (or the co-occurrence of) such physiology, expression, cognition, and experience. Treating emotions as feelings, William James' (1890) claimed that we do not run because we are afraid, but rather we are afraid because we run. The current argument about emotion per se is perhaps analogous in that one is afraid because threat is represented by running in concert with other representations of threat that might include physiology, thoughts, feelings, and expressions. Rather than depicting emotion as having causal arrows going outward to the various indicators that it might cause, the arrows might go the other way, from multiple different evaluative representations of a situation to the emergent emotion, where the emotion is simply their joint activity.

3. How does your approach explain the emergence of differentiated emotion categories?

According to the OCC account of emotions (Ortony, et al.,1988), there are three different sources of value (goals, standards, and tastes), each of which is the basis for appraising a different domain (events, actions, or objects). Thus, events are appraised in terms of the *desirability* or *undesirability* of their outcomes for one's goals. Actions are appraised in terms of *praise* or *blameworthiness* with respect to applicable standards, which include but are limited to moral standards. Finally, objects are appraised in terms of the *appealing* or *unappealing* nature of their attributes with respect to one's tastes or attitudes. These three different kinds of appraisals then give rise to three different kinds of affective reactions: being *pleased* or

displeased at the outcomes of events, *approving* or *disapproving* of the agency of actions, and *liking* or *disliking* the attributes of objects. Thus, in this view there are three different sources of value or kinds of good, reflecting three different points of focus.

The three points of focus are intended to be exhaustive in that any possible target of attention can be thought of either as an event, an action, or an object. Objects can include people, ideas, or even emotions. In addition, One can view the same occurrence either in terms of its outcome, agency, or attributes. Thus, after hearing that one's neighbor was beaten by her husband, one might alternately be displeased and distressed at the bad outcome experienced by the neighbor (feel sympathy), disapprove of the action of her husband (feel reproach), and dislike him as a person (feel disgust). Focusing jointly on the wife's bad outcome *and* the husband's action should yield anger. Anger reflects both an undesirable outcome and a blameworthy action.

The three kinds of good (or bad) are seen as incommensurate. They are not fungible, suggesting that the ends (or outcomes) do not necessarily justify the means (or agency). In this view, however desirable or useful an outcome might be, it would not change the moral value of a blameworthy action. On the other hand, people may use the value of an outcome as a basis for inferring a person's motivation. Thus, a bad action with a good outcome might seem less blameworthy as people infer that the good outcome was a goal of the agent. In the real world, of course, outcomes loom large. In the law courts, for example, a bad action with no bad outcome is unlikely to be punished, whereas very bad outcomes may provide a motivation to see actions as blameworthy.

4. *How does your psychological constructivist approach connect to appraisal models? How much can be accounted for by appraisals alone?*

Appraisal and constructivist traditions overlap considerably (Gendron & Barrett, 2009), and we conceive of the OCC model as an appraisal theory. Nevertheless, it differs in two respects from other appraisal theories in ways that are compatible with constructivism. First, it is somewhat more likely to de-emphasize the discreteness of specific emotions and focus on the situated, variable nature of specific emotions. It avoids treating fear, anger, or joy as entity-like conditions that are triggered by eliciting conditions. Thus, anger is not a rodeo bull waiting to be released to express itself in distinctive physiology and behavior. Of course, anger situations (involving undesirable outcomes from blameworthy actions) are distressing and often do empower forceful reactions. But the OCC model does not assume that the agitated behavior results from an being elicited. Rather, we view the situation as causing agitated behavior along with other reactions, which collectively constitute anger.

The second difference between our model and some appraisal models is, as noted earlier, that ours is a structural model, a description of emotion specifications, not a process model. We do not treat appraisal as a process occurring in real time that *causes* emotions. The many ways that a situation may come to be seen as one of loss, threat, or blame are important, but it is not the subject of our model of the structure of emotions. Appraisal theories generally imply that the cognitive act of making relevant distinctions *causes* the emotion to fire. In contrast, our model specifies the cognitive/situational elements of various emotions.

As a consequence, our account is neither true nor false but is simply an analysis of the elements that make a reaction one of fear rather than anger, and so on. The criterion for an appraisal theory is utility rather than truth. Just as no empirical research will ever disprove that bachelors are unmarried, evidence also cannot show that fear involves an anticipation of bad outcomes. One may learn from experiments how bachelors and fear states behave, but not what

they are. Our account (and the primary aspect of most appraisal theories) is an attempt to say what the various emotions are. Assertions about the structure of emotions do have implications for emotional processes, so the choice among structural theories does have consequences, but one's choices are likely to be based on utility or aesthetics rather than on their truth status.

The OCC model treats appraisals as characterizations rather than causes of emotions. That raises the question of why one might hesitate to say that appraisals cause emotions. The answer is that emotions often begin with low level bodily, hormonal, and affective reactions in response to novelty, for example, which get emotional processes started. As processing continues, cognitive appraisal processes act like a sculptor, shaping undifferentiated affective reactions into specific emotions. In this view, affect and appraisals progress in concert so that appraisals progressively give emotional meaning to the situation and one's reaction. Emotion may thus be constructed rather than triggered. If so, it seems forced to cast appraisals as causes and emotions as responses, as both are constituents of the emotion.

Alternatively, one could include as appraisals the earliest, most elemental processing (e.g., of novelty) as well as later appraisal iterations. The later processing might confirm or disconfirm potential meanings, and integrate interpretations of the situation and of one's affective response into a representation of a particular emotion. As this process unfolds, the situation might be represented in multiple modes depending on the particulars of the situation. These reactions and their interpretation then comprise the emerging emotion.

5. Is the body necessary for emotion, or can emotions be constructed entirely in the brain?

This question reminds one of the idealism of the enlightenment philosopher Bishop Berkeley. He argued that there need not be a real world out there, because our experiences of it and of ourselves could be merely events in the mind of God (a sort of divine version of *The*

Matrix). Could emotions be merely mental events, states of mind emerging from activity in the brain? Might the pit in the stomach felt by an Olympian awaiting her event come not from her viscera but simply from the brain areas that map the viscera? If the effectiveness of a stimulus requires that it be represented in the brain, and if the psychological and behavioral effects of a stimulus generally reflect not the stimulus itself but how one perceives, conceives, and remembers it, then does one really need the stimulus in the first place? Indeed, the most amazing and adaptive attribute of human minds is their ability to live in as-if worlds. People constantly imagine, simulate, anticipate, recall, and remember. They might become distressed that a remembered representation of a just-completed event does not match their anticipated representations of it, or they might be pleased that their post-event mental representation was even better than their pre-event anticipatory representation. We do live much of our lives in our minds, and emotions are mental events. Indeed, the same occurrence in the world that fills one with disappointment may delight his competitor and make him strut and smile. It is not what happens in the world, therefore, but what it seems to mean, and such meaning cannot be in events, but only in minds.

However, perhaps the question is not about philosophy, but about the role of the body in emotion. To be consistent, one would have to say that all that is required for an emotion is for a situation to be represented affectively in multiple (two or more) modes at the same time. If one of these representations were neural and one cognitive, for example, then the brain and not the rest of the body might be sufficient. On the other hand, perhaps William James was right that some sort of psychophysiological involvement is needed to enable people to be moved. Although we have asserted that emotions involve mental states (Clare & Ortony, 1988), they clearly also involve bodily concomitants. Indeed, from the view of emotions as emergent states, multiple

modalities of affective representation outside the brain are required for emotions. And the intuition that it is wrong to suggest that robots could have emotions presumably stems from the fact that their brains are not embodied in the requisite sense.

6. *Are emotion categories (fear, anger, sadness, etc.) useful psychological constructs? If so, how and when? If not, how would you propose we reconcile our language with the language of the public?*

This question has two parts: the first concerns the usefulness of psychological constructs of emotion, and the second concerns how to reconcile the scientific and everyday emotion lexicon. They are addressed in reverse order, because we began our project in the early 80's with the language question. The article then ends with the utility question, suggesting that emotion categories are indeed very useful psychological constructs, but perhaps not in the way that psychologists usually assume.

Emotion Words

The fact that emotion theories are mostly built around common English emotion words is problematic, as has often been noted (e.g., Clore & Ortony, 1991). Emotions are not words, of course, but language does allow us to make more meaningful distinctions among emotions than any other means. The problem is that there is not a one-to-one relationship between words and emotions. There are many words for the same emotion: concerned, worried, anxious, afraid, scared, jumpy, jittery, and terrified all refer to fear. And there are some emotions for which a given language may have no word (there appears not to be a word in English for the Japanese emotion of *amae*). Nevertheless, most theories of emotion use as theoretical terms common English emotion words. Thus, the appraisal theories of the 1980's almost all give accounts of "anger," "fear," "joy," and so on.

This problem was addressed in two ways. First, we undertook a detailed analysis of the affective lexicon to determine which words are and are not good candidates for emotion terms. We began with the 650 or so words in the Allport and Odbert (1938) list of all of the affective terms in English (Clore & Ortony, 1988). For each term, we asked whether it referred to an emotion, and, if not, what category of non-emotional term it represented. The results of this exercise can be seen in Figure 1.

For example, does the word, “ignored” refer to an emotion? We judged that it did not, that being ignored by others is an example of what we called an “External Condition.” Another external condition would be “alone.” Being ignored or being alone are facts about a person at a moment in time, which might cause emotions such as hurt feelings or loneliness, but being ignored or alone are not themselves emotions. The list also included terms such as “dull,” “lovable,” or “sexy,” which we categorized as “Subjective Evaluations,” a form of External Condition, in that the relevant words represent the judgments of others.

Another category included such terms as “aroused,” “sleepy,” and “hungry.” While these terms do refer to internal as opposed to external conditions, they are not good examples of emotion, because they refer to bodily and physical states rather than mental states. The best examples of emotion (e.g., fear, anger, joy, sadness) are distinctly mental. That is, they have mental rather than physical states as their referents. That observation has no bearing on whether emotions involve bodily reactions (which of course they do).

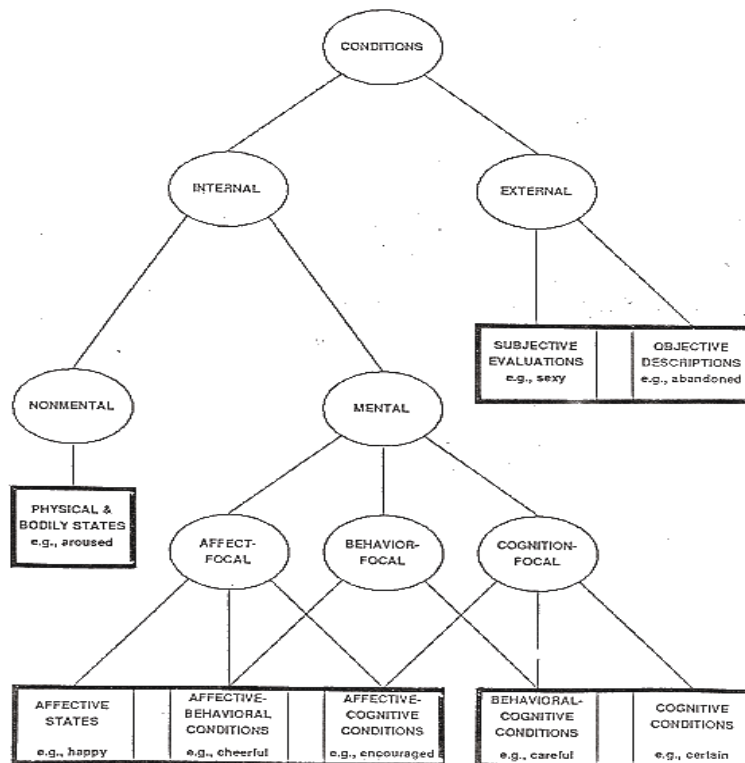


Fig. 1. Taxonomy of psychological conditions proposed by Ortony, Clore, and Foss (1987). The psychological conditions of interest appear in rectangles and the features that differentiate them in ellipses.

Some terms, such as “confident,” “confused,” or “surprised,” are both internal and mental, but they are about one’s cognitions and are not focused on affect or evaluation. As indicated earlier, in our view, a key requirement is that emotion be an affective reaction, a reaction to the goodness or badness of something. “Surprise,” for example, can be either good or bad, whereas emotion terms such as joy and sadness are inherently about the goodness or badness of something. Hence, states such as surprise are seen as “Cognitive States.”

Words such as “gentle,” “meek,” or “mischievous” seem focused on the stylistic aspects of behavior, and they were categorized as “Cognitive-Behavioral Conditions,” which are not good examples of emotions. But terms such as “cheerful,” “gloomy,” and “mournful,” were classed as “Behavioral-Affective Conditions,” which, because of their partial focus on affect are clearly emotion-relevant. Then, there are terms such as “disenchanted,” “offended,” and “optimistic,” which were judged to be “Cognitive-Affective Conditions,” some of which are quite good examples of emotion. Finally, there are terms such as “lonely,” “sad,” or “heart-broken,” which were classified as “Affect-Focal Conditions,” all of which are good examples of emotion terms. This exercise suggested that good emotion terms are words referring to conditions that are *internal*, rather than external, *mental* rather non-mental, *states* rather than dispositions, and that have an *affective* rather than a cognitive or behavioral focus.

This analysis of candidate emotion words served as a kind of pre-theoretical brush-clearing exercise. It helped determine which conditions emotion theories did and did not need to explain. A shortcoming of some theories is that they were constructed to account for some states that are poor example of emotions. Twenty-five years after this work, we are pleased that we made the investment, believing that it paid handsome dividends in the clearer thinking that it allowed.

Some feel that the natural language concepts of emotion that we have inherited should be replaced for scientific purposes by new, empirically-based emotion categories. We finish this article by suggesting, however, that psychologists may have underestimated the importance of everyday emotion concepts in uncovering how emotion works.

Emotion Concepts Structure Experience

We propose that emotion has powerful effects on cognition, but not in the way that has most often been examined. Whereas research often focuses on how affective states regulate attention and cognitive processing, the current idea focuses on how everyday concepts of specific emotions organize people's everyday experience. Our focus in this section, then, is not so much on emotion as on emotion concepts and schemas.

Emotions are not self-identifying. Knowing how one feels after emotional events is not always clear. People can generally classify their feelings as positive or negative quite readily and perhaps indicate that they feel excited, but they often have difficulty specifying further exactly what they feel. When Olympic medalists, Oscar winners, and victims of natural disasters are accosted by reporters asking how they feel, their responses often seem predictable and scripted. Indeed, widely shared concepts of many emotional situations may come to the rescue, providing strong schemas that shape not only what one says, but perhaps also what one feels.

The extraordinary power of scripts and schemas for organizing perceptions and memories of events is evident from classic research in cognitive psychology (e.g., Bartlett, 1932; Bransford & Franks, 1971, Brewer & Treyens, 1981). Bartlett established that schemas influence how people interpret new information and how they remember what they experienced. In his classic study of the Native American folk tale, "War of the Ghosts," Bartlett found that in memory, the culturally foreign aspects tend to get transformed to become more consistent with readers' own cultural schemas. In his research, readers noticed things that fit their schemas, and reinterpreted things that did not, but their schemas remained unchanged. Nearly fifty years later, theory and research again became focused on the powerful role of scripts and schemas in the understanding of narratives, stories, and everyday experiences (e.g., Shank & Abelson, 1976). Social psychologists generated a parallel literature showing similar cognitive dynamics in the ways that

racial, ethnic, and gender stereotypes affect social perception, memory, and inference (e.g., Dovidio & Gaertner, 2010; Fiske, 1998).

Presumably schemas of specific emotions do the same thing. Whatever status emotions themselves have in reality, our schemas of those emotions serve as vital centers of narrative gravitation that organize experience. As people recall and retell their experiences, they necessarily edit, embellish, and assimilate them to whatever categories of understanding are available. Such retellings presumably benefit from an implicit library of emotional schemas that help both speakers and listeners make sense of events.

People all have accessible, stereotypic scenarios of anger, fear, jealousy, and other emotions. These stereotypic scenarios can bring order to what people have to say. They provide readymade frames for everyday experiences, and help interpret the present, remember the past, and anticipate the future. These schemas are not emotions, of course, but cartoon versions of emotions that provide categories for interpreting and communicating the essential aspects of important situations to self and others in a compelling form.

The crisp and highly structured nature of people's schemas for such common emotions as anger and fear makes them powerful as organizing ideas. However, the clarity of such patterns in our conceptual structure of emotional situations does not necessarily imply that similar modularity exists in actual bodily responses, behaviors, expressions, and emotional feelings. The concepts are useful for interpretation and communication because they are simplified. But to the extent that emotion concepts serve those functions, they may also be misleading as sources of predictions about people's reactions to emotion-relevant situations. The patterns may be more evident when people recount their experiences, after they have been interpreted and reinterpreted in terms of emotion prototypes (e.g., Shaver, Wu, & Schwartz, 1992).

Such emotion schemas also provide the structure of plays, musicals, cartoons, children's stories, and folktales. In response to such forms, readers and audiences often engage in a willing suspension of disbelief in which they lay aside the wariness and critical thinking that protects them in everyday life from liars, cheats, and frauds. Observing behavior that is fictional (and sometimes even performed by nonhuman agents) frees us from any implied responsibility to prepare to interact and respond appropriately. Liberated from social demands, we may be particularly open to whatever message is purveyed. Additionally, such presentations may have story-lines that are quite straightforward and characters whose words and actions are lean and focused on a single narrative line.

Creators of digital media indicate that unlike real life, the expressions, movements, words, and actions of virtual characters are designed to portray situations distilled to their emotional essence, as in a great reduction sauce, the key elements become intensified. Describing the process of creating animated films, Peter Docter of Pixar films (quoted in Wargo, 2005) indicated that:

Animators use heightened contrasts — highlighting the extreme emotional reactions, getting rid of the smaller, more ambiguous muscle movements and expressions that real people would display — in order to heighten the drama in the story and to more clearly reveal the characters' personalities.

Leaving out some elements induces viewers to supply details automatically, often finding themselves, thereby, surprisingly moved. Newspaper stories, soap operas, sports commentary, the theatrical aspect of professional wrestling, medieval morality plays, and stories of the lives of the saints are all stripped down to create pointed emotional and moral narratives. Such forms

have arisen and persisted, perhaps, because they help us understand our own yearnings, desires, and disappointments.

We propose that people's everyday review of their experiences and their retelling of them to others may involve similar processes. As people think and talk about their experiences, update their face book pages, or simply ruminate or daydream, their memories may become simplified and schematized. Experiences may become assimilated to accessible emotional schemas and reduced to a more intense version of themselves (Wargo, 2005).

This article initially focused on emotions as representations of recurrent situations. This section argues that the essences of such situations are captured in prototypes and schemas of specific emotions, which play a formative role in understanding everyday experience. We also suggested that these schemas structure novels, stories, and plays. The most explicit statement of that idea comes from an author who proposed that only 36 basic plots can be found in the history of drama and that they reflect 36 basic emotions (Polti, 1921). These include love, tragedy, hope, fear, betrayal, honor, sacrifice, passion, lust, sympathy, ambition, jealousy, short-sightedness, courage, revelation, forgiveness, deliverance, rivalry, jealousy, and others. Although there may be more or fewer than the 36 plots proposed by Polti, the idea that there are a finite number of recurrent psychological situations in human affairs is an appealing one. Further, the idea that these are marked by distinctive emotions that have been the focus of dramatists for centuries is very compatible with the view proposed here.

The most common emotional themes presumably become prototypes, stereotypes, or schemas that are available for organizing, understanding, and communicating one's own personal stories. Thus, when recounting everyday experiences, people typically amplify certain aspects to make clear how awful or wonderful someone or someone's behavior was or how

beautiful or romantic or frustrating, annoying, or infuriating something was, how unjust and unreasonable, or how charming, or sweet some comment or action was. That is, we infuse with meaning, reorganize, distill, summarize, and dramatize events into emotional vignettes, and if we are good at it, our listeners and readers feel some of that emotion too, remembering our experience as a notable example of anger, anxiety, passion, or indignation.

Despite the benefits of having such clear schemas about anger, fear, guilt, joy, and the other common emotions, there are also costs associated with having such strong concepts. Chief among them is the possibility that we may confuse these emotional stereotypes for reality. As scientists, we may then go looking in the body, brains, and minds of research participants for the emotional modules that have been constructed to understand our collective personal experiences. The function of emotions and of stereotypes about emotion seem likely to be the same -- to register the key aspects of important life events for purposes of understanding, decision-making, and action.

6908 words

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