

Barrett, L.F. (2006) Are Emotions Natural Kinds? *Perspectives on Psychological Science*, 1, 28-58.

ABSTRACT

Laypeople and scientists alike believe that they know anger, or sadness, or fear, when they see it. These emotions and a few others are presumed to have specific causal mechanisms in the brain and properties that are observable (on the face, in the voice, in the body, or in experience) – that is, they are assumed to be natural kinds. If a given emotion is a natural kind and can be identified objectively, then it is possible to make discoveries about emotion. Indeed, the scientific study of emotion is founded on this assumption. In this article, I review the accumulating empirical evidence that is inconsistent with the view that there are kinds of emotion with boundaries that are carved in nature. I then consider what moving beyond a natural-kind view might mean for the scientific understanding of emotion.

Emotion is Natural but Categories are Not

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Are emotions “natural kinds”? Barrett (2006) argues against the construct of emotion by conflating the basic-emotions perspective in neural physiology (quoting Panksepp) with a type of category discussed in reference philosophy. She rejects the idea of basic emotion by rejecting the existence of emotion as a natural-kind category. This makes little sense, because the folk sub-categories of emotion need not correspond to the basic emotions identified by emotion theorists or evolutionary psychologists. The basic emotions arise from theoretical perspectives in affective science, expert designations based on scientific study, not everyday categories in use in natural language – the domain of the categories designated as “natural kinds” by philosophers.

I have no problem with Barrett’s definition of a natural-kind category: “...a natural kind is a non-arbitrary grouping of instances that occur in the world. This grouping, or category, is given by nature and is discovered, not created, by the human mind. In a natural-kind category, instances cluster together in a meaningful way because they have something real in common.” (p. 29). Barrett presents a series of analyses to demonstrate that emotion subcategories are characterized by neither observable properties nor underlying causal mechanisms (essence). Unfortunately, her evidence is drawn from the technical literature, not from the human experience that gave rise to the categories. She acknowledges that we all know what anger is and have experienced it, but she ignores the source of that knowledge and instead focuses on difficulties of measurement embodied in the scientific literature, where no evidence is strong enough to suit her.

For a social constructivist, the phrase “given by nature, not created” may have little meaning, because all categories are constructed (i.e., created), even those based in nature. Many cognitive theorists agree. The reference to natural kind serves mainly to distinguish culture from nature as the domain of the objects categorized. This distinction between the natural and human artifact has become awkward for anthropologists, too, given that each culture parses nature differently. For example, a natural phenomenon such as color appearances, results in different categorization depending on whether a culture emphasizes the dimension of brightness (e.g., Dani, Tarahumara) instead of hue (English, Chinese). Thus it is unclear whether Barrett is arguing that emotion cannot be constructed because there is nothing to construct it from (no reliable underlying phenomenology), or arguing that emotion is constructed, but not as the natural kinds identified by those studying natural language and categorization (e.g., there are no agreed upon sub-categories). As an alternative, Barrett proposes studying the elements that may be the basis for construction, but that implies, incorrectly in my opinion, that current researchers have not already operationalized emotions in terms of such components. No matter how narrow the focus during research, at some point a wider meaning must be attached to one’s measurements. Calling emotion “core affect” instead of “anger” will not change its measurement.

While citing Putnam (1975), Barrett ignores Putnam's (1988) idea of "meaning holism" and along with it, Wittgenstein's (1953) insight that the meaning of words is in how they are used. The meaning of reference terms, including emotion, is inseparable from the need of a culture to talk about emotion, and the context in which that talk occurs. Barrett presents a great deal of evidence, mostly showing that emotion is difficult to study. However, she makes an error of inference when she proposes that evidence must be very strong or it does not support the idea of emotion as a natural kind. It can be argued that reference terms exist to impose order on a messy phenomenon, to summarize or synthesize disparate elements, to regularize a group in which instances differ widely, to obscure individual differences in experience enabling people to communicate with a shared understanding. It may be that emotion terms exist precisely because they impose structure and meaning onto experience that empirical researchers have found fuzzy and difficult to study. We invent psychological constructs for convenience of explanation and reference – people do the same in everyday language. Thus, without some evidence that people do not perceive emotions as described in language, the evidence presented by Barrett is as convincing in support of emotion as a natural kind as against it. To see this, one must place the idea of natural kinds into the context of how language itself is used. Just as Wittgenstein claimed that the meaning of words could not be divined by studying language – only by studying usage – emotion's status as a natural kind can only be divined by studying how people (including researchers) think about emotion, not its reality in the measurements of body or expressive behavior.

Is emotion natural? It is so natural that those without emotion are called inhuman. Does emotion have internally or externally observable properties? As Barrett acknowledges, we can introspect our own feelings and recognize those of others. Must those physical properties conform to the patterns and regularities Barrett seeks in the emotion literature? There is no need for this. All that is required, from a cognitive standpoint, is that the features of an emotion differentiate it from other emotions and that they be sufficiently salient to be noticed experientially and associated with other elements of an emotional experience. The properties of a state labeled using an emotion term need not be consistent or even uniquely distinctive, as long as they occur within a context that is identifiable. As Putnam (1988) describes, "meaning holism" specifies that when a word is decoded, its meaning includes not simply the lexical or dictionary denotation of the term itself, but the person's entire prior experience, the wider experience of the culture itself through time, and the context in which an event being referenced occurs. There are no emotions without such cultural contexts, except in experimental settings such as those studied in the literature Barrett cited – a limited, specific, and in many ways impoverished context.

As an alternative to categorical approaches, Barrett proposes a dimensional approach in which two aspects of "core emotion," arousal and valence, account for the variation among emotional states and behavior. She argues that because a categorical approach fails (somehow the failure of emotion as a natural kind implies its failure as any kind of category), a dimensional approach is preferable. However, there are several deficiencies of a dimensional approach. First, the dimensions that emerge (evaluation or valence and arousal) are those that account for the most variance only when emotions are grouped into the same large category. These are not necessarily the most important dimensions when a single emotion subcategory is considered. For example, when love/liking is considered, a dimension of external versus internal object emerges. Second, the dimension of evaluation emerges when analyzing almost every category in the English language (Osgood, Suci, & Tannenbaum, 1975). Apparently people are able to classify anything as bad or good, negative or positive. This is useful, from an evolutionary perspective, but not very informative when considering what makes emotion distinct from animals, colors, or artifacts. It even fails to be helpful when trying to distinguish one emotion from another, as does arousal. Arousal and valence are insufficient to differentiate anger from fear (both high

arousal, negative terms). A third dimension is needed for that. If you add enough dimensions to the mix, you wind up with something akin to a discrete category.

Barrett frames her analysis as an either/or question, as if it were necessary to choose between discrete (categorical) and dimensional views of emotion. Cognitive processing includes the ability to see the same objects as either members of a category or items varying along some defined dimension of change. People use categorical thinking in situations where a fast judgment is needed, evaluating the most salient aspects of a phenomenon. It is a holistic mental heuristic that ignores specifics in favor of the most obvious differences, in order to make a quick and dirty judgment. Salience defines the categories. People use dimensional thinking when they have sufficient time to process specific features of an object. Anyone is capable of switching between the two modes, with sufficient time to direct their attention to the relevant features of each dimension. Task demands can cause people to shift from one perceptual mode to another. Given this cognitive flexibility, I find myself wondering why theorists cannot have the option to use whichever form of explanation best suits their purposes. This requires that we recognize that categorization is a process of our minds, not a property of the thing being categorized.

Finally, a recurring theme in Barrett's article is a criticism of the strength of the evidence she wishes to discount. At some point, Barrett must acknowledge that psychology as a whole rarely produces the strong evidence she seeks. Unwillingness to accept statistical significance as a criterion ignores the probabilistic nature of human behavior and our study of it. In fairness, no stronger evidence can be expected for this question than is accepted in any other subfield of psychology.

To take an extreme social constructivist view, why criticize how other theorists have chosen to construct their expert view of emotion, based as it must be on their own unique perspective and their own empirical findings? Why not welcome a diversity of theoretical perspectives to the table? My disagreement with Barrett's advocacy of "core affect" is that she seems to believe that a viewpoint can be established by knocking down others, instead of by testing predictions drawn from her own perspective. When "core affect" leads to important discoveries in emotion research, people will recognize its explanatory value.

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