

Basic Emotions

One very influential research program in the science of emotions has been the Basic Emotions Program. This research program was pioneered by Paul Ekman, who argues that there are several distinct and measurable “basic emotions”.

What is a basic emotion?

While details vary, there is general agreement that a basic emotion is:

- discrete
- has a fixed set of neural and bodily expressed components
- a fixed feeling and motivational component that has been selected for its function through longstanding interactions with ecologically valid stimuli. For example, the subjective feeling and motivational component of fear (avoidance and flight behavior) is what it is because it has been most adaptive in response to those stimuli that typically elicit fear.
- psychologically primitive: they must originate in subcortical brain structures.

How do we test whether something is a basic emotion?

(1) A sufficient condition is if we can observe the same emotion in a non-human animal. If something is supposed to be a basic emotion that's unique to humans, we need a story for why humans' unique environmental and social challenges would have led to the emergence of new neurological structures, not seen in other species.

(2) Neurons dedicated to the emotion's activation. We look for evidence of genetically determined capacities to experience each emotion separately.

How prevalent are basic emotions?

Here, researchers disagree. Some (e.g. Izard, Levenson) argue that basic emotions are critical for early development but then, as a result of learning, develop into more complex emotional states in adults.

Which emotions are considered basic?

There is some common ground: Happiness/pleasure/enjoyment, sadness, fear, anger.

More controversial: interest, lust, disgust, surprise, contempt

What are basic emotions for?

Basic emotions are taken to be evolved responses to particular conditions in the organism's environment. If an emotion evolved to facilitate coping with specific ecological challenges, then that emotion needs to cause and motivate appropriate behavioral and physiological responses. (As individuals develop higher-level cognitive capacities that allow for emotion regulations, this behavior-activation is no longer deterministic.)

Challenges to traditional philosophical approaches to emotions?

Griffiths: the psychological states and processes that fall under our old concept of emotion are too dissimilar for a unified scientific psychology of the emotions.

Emotions are not a natural kind. Rather, they are like "Jade" or "vitamin".

What are natural kinds? They are categories that admit of inductive projection. We can reliably extrapolate from samples of the category to the whole category. This does not require that we can formulate universal, exceptionless "laws of nature" on the basis of these categories.

Categories are natural kinds only relative to specific domains of properties to which they are connected by background theories:

"It is not the case that the psychological states and processes encompassed by the vernacular category of emotion form a category that allows extrapolation of psychological and neuroscientific findings about a sample of emotions to other emotions in a large enough domain of properties and with enough reliability to make emotion comparable to categories in other mature areas of the life sciences, such as biological systematics or the more robust parts of nosology." (p. 235-36)

Griffiths Argument:

"Having an emotion" can mean one of (roughly) two things:

(1) Affect-program response ("basic emotion"):

- short-lived, highly automatic response
- triggered in early stages of processing perceptual information
- realised in anatomically ancient brain structures that are shared with many other vertebrates
- found in all human cultures
- closely related to responses in other primates
- Example: flight response, sudden anger

(2) Complex Emotions:

- endure longer
- involve more complex, conceptual appraisal of the situation
- may involve internalized cultural model of appropriate behaviour
- may or may not involve occurrence of one or more affect program responses but unlikely to be reducible to them
- Examples: envy, self-loathing, guilt

Natural kinds in biology:

Distinguish between two distinct sets of biological categories: homologies and analogies

Two organisms can share an organ because they descended from the same ancestor. This are homologues. Or they could share "the same" organ because natural selection adapted both for the same ecological role. (E.g. bird wings and bat wings). These are analogies.

A psychobiological theory of emotions in general would be a theory of psychological analogies, i.e. those traits that fulfill the same functions in relation to the environment. But such a theory would be unsuitable to the purposes of psychology and neuroscience.

Readings

Griffiths, Paul E. What emotions really are: The problem of psychological categories. Chicago: University of Chicago Press, 1997.

Griffiths, Paul. "Is emotion a natural kind?." (2002).

Tracy, Jessica and Randles, Daniel. Four Models of Basic Emotions: A Review of Ekman and Cordaro, Izard, Levenson, and Panksepp and Watt, Emotion Review October 1, 2011 3: 397-405