

Emotions: PCT vs Traditional Explanations

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The PCT theory of emotions is not, on the surface, very different from any accepted theories that include physiological explanations. It views emotions as a combination of cognitive factors (goals and the higher-order perceptions that are sought) and feelings (sensations aroused by changes in the physiological state of the body).

However, in PCT the central focus is always on goal-driven control processes, while traditional approaches have difficulties with separating goals from the physiological phenomena that accompany goal-seeking or the frustration of goal-seeking. Traditional views of emotion give primary importance to the feelings and symptoms (intermixed with implied goals, as in "an urge to flee"), and leave the goals as further speculative features if they are considered separately or as anything but epiphenomena.

The traditional view

For example, one emotion that has been studied is called "fear". Fear is commonly associated with feelings of panic such as a pounding heart, breathlessness and ragged breathing, a cold sweat, muscle tension and jumpiness, loss of bladder control, trembling, prickly goosebumps, and more. These dramatic sensations are in the spotlight, and it's only far down the list that we come across anything indicating what a person who has these feelings wants to *do*. That is commonly handled with a casual word: flee, escape, run.

What the fearful person wants to do is (to simplify a little less) to increase the line-of-sight distance between himself and the object or event that is feared (by moving away or by fending off or pushing away the object or event, literally or metaphorically).

Whatever the external process (or the internal thought) that is the object of the fear, the person wants to experience less of it, or sometimes none at all. In some cases, such as the fear that arises on getting too close to the unguarded edge of a cliff, the fear can be handled by backing away until it subsides. In other cases, such as encountering a lion out of its cage, no amount of distance is enough if you can still see the object, meaning it can still see you. Even retreating completely out of sight is not enough if you can still smell or hear the lion. Sometimes the fear can't be reduced much because there is no way to escape without calling attention to yourself; then you find a small concealed place and squeeze into it, try to tiptoe and pant and shake silently and not knock things over or sneeze, and then try to freeze and avoid moving or whimpering.

In any fear situation in which the object of fear is consciously identified, the things that the fearful person wants to *do* seem perfectly natural and appropriate. If being close to the edge of a cliff increases the danger of falling, the logical thing to do would be to back away from the cliff or move to a place where there is a sturdy-looking guard-rail.

Being in the presence of a large uncaged wild predator definitely is an unsafe situation, and one must (a) see to it that the predator is killed, caught, or driven far away, (b) flee to a place of safety, or failing either of those choices (c), keep the predator from detecting one's presence. There are probably other intelligent tactics that could be used.

These tactics as described so far could all be carried out coolly, quickly, and efficiently. They are all activities that, skilfully executed, stand a good chance of averting or avoiding the danger. Their effectiveness would not be improved by adding sensations of fear. So why are the feelings there?

Apparently, the consensus is that feelings are there to serve as warnings that some kind of action must be taken. The feelings are viewed as information-carriers, the products of ancient systems developed during evolution that arouse defenses or trophisms -- an early-warning system that enhances survival. The feelings trigger the actions of the logical danger-avoiding strategies and alert the conscious systems that it is time to do something about a problem. This implies that wherever or whatever the emotion-systems are, they can receive signals from centers higher in the brain which can recognize things such as cliffs and lions, and they can send signals to other higher centers to arouse actions that those centers already know how to carry out.

This theory depends on some very complex features of emotion systems, and some complex interactions with the learned behavioral systems employed, in the present example, to carry out the suggestions or commands of the emotion systems. It's not enough to receive a notification that flight is called for; one must already know how to flee, which is to say how to employ muscles in such a way as to increase the line-of-sight distance to some object identified as one that is to be feared, and which is distinguished from other objects in the same or other locations which are not dangerous. The emotion system must somehow know what behavioral systems are available and what the appropriate action would be in the current environment.

Nevertheless, it can be -- is -- claimed that despite our incomplete knowledge of how these complexities are accomplished, and despite the rudimentary knowledge we have about the actual information carried in this or that neural tract, we can be confident that we have the right overall picture and some experimental indications of its correctness.

The PCT view

The PCT theory of emotions, however, says that this picture is incorrect. PCT explains the same observations and experiences of emotions, as well as the same experimental evidence, in a fundamentally different way.

According to PCT, all behavior, including emotions, begins with perceptions that are compared with reference-perceptions to generate signals indicating how much difference there is; error signals. Perceptions can either be conscious or exist outside the scope of

conscious awareness; in either case, many of them are controlled by behavior to make them match reference-perceptions and keep them matching despite disturbances and other changes. Unconscious control is called "automatic" but it can become conscious.

Attention or awareness is selective; it conveys to the observer what the observer is prepared to observe. Any behaviors associated with features of the perceptual field outside of awareness occur automatically. It would be possible, for example, for a group of people to be standing on a verandah looking out over a peaceful African landscape, discussing the history of the land, while all the time, somewhere in that visual image in every eye, there is a clear small image recognizable as a lion standing just inside the boundaries of the south lawn and looking at the verandah. The historical discussion continues undisturbed. Anyone who has played the "Where's Waldo?" game, or has seen the demonstration in which a man in a conspicuous gorilla suit is overlooked by an entire audience, is familiar with this phenomenon.

Assume now that somehow, either through experience or through evolution, each person has acquired a control system for avoiding the proximity of unconfined lions. If a person happens consciously to notice this lion as soon as it appears, he or she might suggest to the companions on the verandah, "Let's move into the house; the lions are on their way to the river and there's no reason to take chances." The occupants might move indoors a little more briskly than usual, but with no dramatics. They've seen it before and know what to do.

But let's assume that even with this control system in existence and even with everybody looking right at the south lawn, nobody becomes conscious of the lion. They are too focused on the conversation to notice it. What happens then?

What happens is that the lion-avoiding control systems go into automatic action, and start sending signals to lower systems, telling some of them to start moving indoors, and telling others, the somatic systems, to adjust the physiological systems of the body to support possibly rather energetic action. They start out doing the same things they would do if they were operating consciously. There might be a slight movement toward the house, but the control systems in consciousness simply resist; they are having an interesting conversation and intend to stay where they are. Disturbed, they resist and cancel the effects of the reference signals being sent automatically to the behavioral systems and no significant actions take place.

However, the other outputs, the ones going to the somatic systems that arouse the body in preparation for action, are still there; nothing is canceling them. The body's physiology is changing. The heart beats a little faster, the breathing becomes a little deeper, the distribution of nutrients and blood flow changes a little. The people on the verandah start to feel a little edgy, a little tense. Something is telling them to move inside, and getting them ready to do so, and something else is keeping them from doing

so. The whole body is becoming increasingly prepared for action.

We now have two control systems in action. One is saying move indoors. The other is saying stay here and go on talking. It is impossible to do both, so there is a conflict. Because of the conflict, there is no action, but because of the control system that wants not to see the lion, there is an adjustment of the physiological systems, and that adjustment is sensed and reported to conscious centers higher in the brain as a configuration of feeling-states that has arisen from, apparently, nowhere.

Now the lion begins walking quietly and a bit too purposively toward the verandah. It's now only 100 yards, half a block, away. The automatic lion-avoiding control systems experience an increased urge to get moving, so the conscious systems have to resist harder. The change in physiological state becomes more pronounced, and sooner or later someone says "My God, what's that?" and the host replies "Inside, everyone, NOW!" The lion leaps forward, everyone jams through the doorway, the host slams the door shut, the lion crashes against the door, and people stagger into chairs clutching at their hearts. The Masai warrior-bartender starts calmly mixing drinks; he is confident (incorrectly) that the lion wouldn't hurt him.

There is the early warning system. It's simply an ordinary control system that has been somehow acquired (how doesn't matter particularly). While working automatically, it detects something different from what it wants to experience, and tries to act. The longer other control systems resist the action, the bigger the sensed error gets, the more the physiological preparedness develops, and the stronger the feelings get. When the conflict is resolved (by shifting awareness) so action can take place, action takes place. Then, when or if the error is brought to zero, the body goes through recovery back to normal as the heart slows down, the breathing evens out, and the adrenaline is metabolized.

Conclusion

Traditional theory: Goal-seeking behaviors termed emotional are triggered by feeling-signals generated by inherited emotion systems.

PCT: Feeling-signals are a result of the goal-seeking behavior we term emotional -- as well as all other kinds of behavior.