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Thrilling Thoughts: How Changing Your Mind Intensifies Your Emotions

Imagine the experience of Captain El Tovar, who, in 1542, trudging through the wilderness of Arizona in search of the seven cities of gold, stumbled on the Grand Canyon. As he peered over the edge at the river 6000 feet below, how intense his experience of awe and amazement must have been!

And what of Oedipus, who, searching for the murderer of his father, King Laius, discovered that he himself was the guilty party, and that his wife Jocasta, therefore, was his own mother. These discoveries led her to hang herself and led Oedipus, with two pins from his dead mother's dress, to gouge out his eyes.

To contribute to the current volume, authors were asked to nominate something they had written that was underappreciated. My candidate is a brief essay (Clore, 1994), in which I asked what makes emotions intense. Part of my answer, as illustrated above, emphasized the role of experiencing cognitive structural change. Presumably, if we were to visit the Grand Canyon today, our experience would be less intense than that of the Spanish explorer, because we know a lot about it, have seen pictures, and may even have been there before. It would still be amazing, of course, but knowing what to expect should limit the amount of cognitive restructuring.

In a related way, when vacationing in the mountains or on the ocean, it can be distressing how quickly one adapts to the surrounding beauty. Looking at photographs or thinking about the experience later can regenerate only some of the initial intensity. And as images lose their power to restructure our mental experience, the most we can hope for is a memory of the fact that we were once amazed.

After having one's world turned upside down, as happened to Oedipus, adaptation would be much more difficult. His trauma was fictional, but people do sometimes experience extreme cognitive restructuring. One might discover that one's spouse has been leading a double life or that one's parish priest is a child molester. Some people discover that their mother and father are not actually their birth parents, and in psychotherapy, people sometimes come to see themselves and their families in a new light that changes everything. In addition, sooner or later we all experience the death of someone close. When that happens, our mental representations of our lives may become dramatically restructured. I propose that just as the amount and rate that one descends on a roller coaster determines the intensity of that experience, the amount and rate of change in cognitive structure may determine the intensity of emotional experiences.

EMOTIONAL INTENSITY

Some of the more specific factors that make emotions intense or mild differ for different emotions (Ortony, Clore, & Collins, 1988). For example, fear is more intense when a feared outcome is especially important. Thus, fearing for one's life should be more intense than fearing that one will be late for work. Fear is also more intense when the feared outcome seems more rather than less likely to occur. By contrast, the intensity of the emotion of shame depends not on the likelihood of bad outcomes, but on the blameworthiness of one's actions. Shame is more intense if one violates an especially important standard or feels especially responsible. But underlying even these specific and local factors, I suggest, is the role of cognitive restructuring, a more general phenomenological factor that I see as the ultimate, the real, intensity variable.

If this idea seems unfamiliar, that may reflect the lack of attention it attracted 15 years ago when it was first published. Whereas people on the street know what "cognitive dissonance" is, "cognitive restructuring" is relatively unknown even in psychology. But of course, dissonance was elaborated by its author in many publications over many years, whereas restructuring was mentioned only once in a short chapter in a long book.

But I am still quite attracted to this restructuring hypothesis. It handles nicely the fact that satisfying pieces of humor, music, and literature, for example, all require a sufficiently well-developed cognitive structure for one to be moved. Thus, classical and jazz pieces are most satisfying when an initial theme is sufficiently accessible that one can take delight in its rhythmic and melodic transformation. And the endings of Dickens' novels are especially pleasing because there are lots of structural changes as the characters' lives suddenly intersect, and all is resolved.

A primary source of appreciation of novels, plays, and films lies in readers' and viewers' perceptions of the ways in which characters develop and change as events unfold. A fascinating variation on this requirement can be seen in the 1984 German film *Sugar Baby*, which shows the development of a romance between a fat woman who is a mortician and a much younger subway conductor. In this understated film, the most important changes are in viewers' feelings about the characters rather than in the characters themselves. Viewers find at some point that their initial feelings of discomfort and repulsion have changed. Instead of seeing only the mortician's unappealing fatness and other incongruities, one finds oneself disarmed by the universal beauty of the romance between these two otherwise lonely people. In terms of our hypothesis, *Sugar Baby* is satisfying because of the change we experience in ourselves and what we care about. And the more dramatically we experience such change, the more satisfying we should find the film.

Note, however, that such cognitive structural change is not the same as raw stimulus change. If scenes from one film or book or piece of music were simply stuck into the middle of another work, there might be much stimulus change, but little change in one's cognitive model of what went before. On the other hand, recent research shows that although people prefer their television programs to be uninterrupted, commercial interruptions actually increase enjoyment by disrupting the process of adaptation (Nelson, Meyvis, & Galak, 2009). Thus, although such interruptions do not change the story, they do require that one transport oneself back and forth between the fictional world being depicted and one's everyday world. These results suggest that the critical variable lies in the *experience* of structural change, not in the structural change itself.

RELATED IDEAS

Writers focusing on related ideas include Keltner and Haidt's (2003) proposals about the emotion of awe. They propose that awe involves both perceptions of vastness and a need for accommodation. A charismatic leader, a grand vista, and a symphony might all elicit awe. They maintain that experiences that lack one or both of these features do not qualify as awe. Thus, for example, they say that "surprise" involves accommodation without vastness.

Some empirical research also focuses on ideas related to our hypothesis. For example, long-time colleague Bob Wyer proposed a wonderful theory of humor (Wyer & Collins, 1992) in which the critical factor is an experience of some kind of diminishment. The diminishment can take many forms. In the classic form of cartoons and jokes, high-status individuals might be brought low by a banana peel, or people representing racial, ethnic, or gender stereotypes might get diminished in various ways. In addition, listeners to jokes invariably experience a kind of diminishment when the arrival of the punch line makes it clear that they were pursuing the wrong assumptions about where the joke was going. But the change is nevertheless experienced by most people as enjoyable, and presumably more cognitive restructuring results in more appreciation and laughter. But in addition to the amount, the rate of cognitive change is also critical, since in humor, timing is everything.

If these principles predict how funny people find humor, might they also predict how people experience insights as profound? If humor involves cognitive change in the direction of some kind of diminishment, perhaps the experience of profundity involves cognitive changes in the direction of some kind of elevation or expansion of ideas. If a saying or analogy in which a topic is diminished is funny (e.g., "Lectures are like sleeping pills"), perhaps an analogy in which a topic gets elevated seems profound (e.g., "Libraries are like gold mines"). In any event, the size of the change experienced as one comprehends the humor or insight should be related to the degree of satisfaction.

The single most elegant study of the process we have in mind is not well known, because it is described only in a book chapter on metaphor (Sternberg, Tourangeau, & Nigro, 1979). It involved the creation of metaphors based on the multidimensional scaling of various domains in order to establish psychological distances among the elements. Consistent with our hypothesis, the most satisfying metaphors had specific elements that were very similar, but that were in domains that were very different from each other. That is, as long as the elements fit, the greater the mental travel or cognitive remapping involved, the more people were likely to smile and say, "Ahh, what a satisfying metaphor!"

In related work, Dougal and Schooler (2007) studied the effects of having an "ah-ha" experience as one solves anagrams. In unpublished research, Schooler had participants solve anagrams before they got the punch lines of jokes. He found that the "ah-ha" experience of solving an anagram was sufficiently similar to the "ah-ha" experience of understanding the punch line that anagram solving made jokes funnier. Again, the intensity of affect depended on the total amount of cognitive restructuring experienced.

When I related this idea to Kay Deaux recently, she countered by saying that

some narratives are riveting even when one knows how the story ends and there is no surprise or restructuring involved. That is an excellent point. But when novels or films start with a defining event, so that the rest consists of flashbacks, knowing the end point may even increase the number of mental trips that readers or viewers implicitly make back and forth. If so, then the sum of the experiences of cognitive change may get multiplied. Suspense may intensify one's experience in a related way, because one implicitly entertains first one outcome and then the opposite. Such flip-flopping of one's cognitive model involves lots of restructuring experiences and hence lots of potential for emotional intensity. Again, apparently the critical variable is not the restructuring itself, but the associated experience.

Before closing, I should mention that the current phenomenological hypothesis is intended to be more broadly applicable than has so far been discussed. For example, I believe that other emotion intensity variables, such as goal importance, reduce to the same thing. The relative importance of various goals, values, or attitudes is often quite difficult to specify. But within the current hypothesis, their importance would simply be the extent that they are central within their respective structures. Goal importance, then, would be the degree to which a unit of change in a given goal alters other goals and plans to which it is linked. For example, the well-being of one's spouse is usually quite a central goal, and the death of a spouse affects many other aspects of a person's life. To the extent that it does, it would clearly be an important goal, and having that goal thwarted should be met with intense and enduring emotional reactions reflecting the amount and rate of cognitive structural change that is experienced.

AUTHOR NOTE

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