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BOOKS & CULTURE

A Conversation With the Psychologist Behind 'Inside Out'

Emotions expert Dacher Keltner, who advised director Pete Docter throughout the making of the new Pixar hit, dives deep into the science of emotion, and tells us how Inside Out could teach Western culture an important lesson.

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Pixar has a proud tradition of taking things that are incapable of expressing human emotion—robots, toys, rats, cars—and imagining a world where they can, in fact, feel. The studio's most recent effort, the box-office topping and critically acclaimed *Inside Out*, takes viewers inside the head of a young girl named Riley, imagining what it would be like if her *feelings* could feel.

While *Inside Out* is ultimately an animated children's movie, the perfectionists at Pixar (which is owned by the Walt Disney Company) still took the task of personifying emotions very seriously. To ensure they translated complex psychological issues accurately and clearly, they turned to two of the leading minds in the study of emotions, Paul Ekman and Dacher Keltner. We recently had a chance to speak with Keltner, a professor at the University of California-Berkeley, who shared with us what the filmmakers got right, how it can change the way Westerners think about emotion, and what the inside of a lustful college student's mind might look like.

So take me to the beginning: How did you get involved with the making of *Inside Out?*

I met [*Inside Out* director] Pete Docter at an Association for Psychological Science conference seven or eight years ago. I was asked to be on a panel about expression with [psychologist and co-*Inside Out* consultant] Paul Ekman. He was talking about other Pixar films and how they portray emotions.

Pete called me up like five years ago and said, "I want to talk to you about this idea for a movie all about emotion." My involvement really had a couple of different pieces: One was to visit Pixar and meet with Pete's core creative team and just talk about science, talk about what we know, talk about the brain, talk about expression. Second was answering Pete's emails, which he literally still sends me to this day, where he asks me really specific science-based questions—like, what is joy, in terms of its physiology?

Let's start really broad: What did the film get right?

Well, I think that the film really got a couple of big ideas about emotions right. One, [emotions] are really critical to how we look at the world—our perception and our attention and our memories and our judgment. They guide us in our handling of really important life circumstances, like moves and developmental changes.

The second thing is more subtle to perceive in the movie, and it's something that we've been arguing for in my lab: People in different traditions like to refer to emotions with a social idiom or a grammar of social interactions. Emotions are the structure, the substance, of our interactions with other people. If I'm falling in love with somebody, everything that I do in that euphoria of love—buying flowers, reciting poetry, touching the individual's hair—it's textured by the feeling, and it sets up these patterns of how we relate to each other. Those scenes in particular with Riley's fights with parents and running away and coming back are all about sadness. That's what it really got right. Emotions shape how we relate to other people.

How accurate was the film's depiction of the control that emotions exert on our memories?

There are pretty good studies by Linda J. Levine down at the University of California-Irvine and earlier by Gordon Bower that show if I'm in a current state—let's say I'm feeling ashamed—and you ask me to recall something from the past, that emotion is going to bias what I recall from the past, and I'll tend to dredge up more shameful qualities of the experience, compared to if I was feeling proud or jealous or whatever. We don't know how strong this is—how much current emotions bias us to ignore factual properties of the past—but it is true. I think that strikes people, particularly with the loss of childhood so well captured in the film.

There were moments in the film when sadness would touch a memory and it would become partially blue, or in some cases entirely blue. How did the filmmakers do in portraying the malleability of emotions?

It's so interesting: You may think your memories are a factual representation of events, but in fact we lose a lot of information. Memory is imperfect, that's OK, and emotions are part of the reconstruction of the past. People say they get it, but once you portray that artistically, then people are crying and struck by the existential truth of that notion.

What did you think of the visual representation of it all—the islands, the memory balls, etc.?

That's where you just have to simplify for the sake of artistic narrative. The five islands of personality—I liked their choices a lot. I liked that they had a goofball island for an 11-year-old kid. But if we think about the real structure of the mind—and they only briefly talked to me about this—it's going to involve not only friendship and family and the imagination, but it's going to involve genetically based traits: Am I really outgoing or not? It's going to involve context. There they simplified, but I think they captured some fundamental truths—that our minds are relational. I think people really resonate with that.

Speaking of simplifying things, they used five emotions, and obviously there were narrative reasons for that, but what did they leave out? Do we gain some core emotions as we age?

The first wave of emotion science focused on those [five] emotions. There's a paper coming out, authored by Paul Ekman, where he surveyed a couple hundred emotion scientists and there's a lot of consensus: Yeah, those are the emotions that are a part of our nervous system and our identity. But I've devoted my career to the study of newer emotions like embarrassment, amusement, awe, and sympathy.

I've talked to Pete [Docter], saying: "Hey, there are these other emotions that are really interesting. Imagine if Riley had had one experience of awe. How fun that would be to portray?" Pete was like, "Look, I recognize that there are 15 to 20 emotions, but if we had 15 to 20 characters it would be mayhem." And he was right. I think he had to simplify and he chose wisely because those are pretty well understood emotions.

So out of any five, do you think those were the most appropriate five?

Well, I don't. It's really complicated. Like how can you not talk about love? Paul Ekman, the other consultant on the film, thinks love is not an emotion, but I do. Or what about amusement, the non-serious hilarity of feeling amused? Or sympathy? There are profoundly important emotions that didn't make the cut.

I'm curious what changes you think we would see if we were inside the head of an adult as opposed to a 10-year-old kid?

That's a great question. One: We know during the teen years, as the frontal lobes mature and develop reasoning, we start to learn how to really reflect on our emotions and be aware of them with language and metaphor and representation and stories. I think you'd have to consider what people typically think of as the rational response to our emotions. Do we suppress them or elaborate on them?

Younger kids' emotions are purer in a sense. I think that a 50-year-old like me starts to have these really interesting mixed emotions. I feel so joyful that my daughters are getting older, but I feel sad that they're on their way out of the home. I think that'd be fascinating to grapple with. And then there are going to be emotions that become more prominent as we become older—we know, for example, that people get kinder as they get older. They want to volunteer more and they feel more compassion.

What specific psychological concept would you most like to see anthropomorphized?

Wouldn't it be amazing to have Riley be an 18- or 20-year-old and suddenly, like the college students I teach at Berkeley, her emotional life becomes really different? Yeah, anger and fear and sadness are there, but they don't care as much about social anxiety. They're starting to feel sexual desire, lust, and that could be really funny—maybe not in a Disney movie, though. We know an 18- or 20-year-old is awestruck a lot. They're awestruck by theories and big ideas and science and spirituality and meditation. They start to get these political emotions; they're really angry at the political status quo. I feel that would be a tremendously ambitious movie, and one worth making.

It's been three weeks since *Inside Out* was released. What do you think of the response?

I've now seen it three times—it really blows me away. The emails I'm getting are astounding. I've gotten emails from grandfathers who are like, "I went with my grandkids and I was crying." Sixty-year-old men are saying this movie is changing their relationship to their wife. I got an email from a mom who took her highly functioning autistic boy to the movie, and seeing the movie was the first time that this young guy had insight into his emotional difficulty. He said: "Mom, I know I have anger, fear, and disgust, but I really struggle with sadness and joy—I don't know where they are." And she said it was their breakthrough moment. I was blown away.

It must be really neat for someone who has dedicated his professional life to the academic pursuit of this subject to see it affect so many people.

I think any sane academic knows that on their good days their ideas reach, I don't know, 20 people. The thing that I've always taught my undergrads, and I've taught this for 20 years: Emotions are good for you. Put aside these old ideas of original sin and that passion is animalistic and base. Darwin and others said we have these emotions and they're good for us, they help us accomplish things. People get lost in the academic terminology. But this movie is telling people to embrace your emotions—it's OK if you get angry from time to time. There is some reason why you're doing it. It also shows you how important art is in advancing our understanding of human nature.

I think the film did a great job of that with sadness in particular. It told kids, or people who would otherwise not know, that feeling sad is perfectly normal, and can even lead to something better.

I wrote a *New York Times* piece on that: We know scientifically that a girl Riley's age is going to lose a lot of joy. They're going to feel sad, and they're going to really lose a sense of self confidence; they have this drop in self-esteem. Parents, when they see it, are absolutely shell shocked. And then sometimes people are saying, "Maybe you should put her on medication." But what the film says is this is just part of growing and it's OK. I feel that is the most important message in the movie.

One of the things I really resonated with is that we have a naive view in the West that happiness is all about the positive stuff. But happiness in a meaningful life is really about the full array of emotions, and finding them in the right place. I think that is a subtext of the movie: The parents want Riley to just be their happy little girl. And she can't. She has to have this full complement of emotions to develop. I think we all need to remember that. This is a weakness in Western culture and the United States. You need sadness, you need anger, you need fear.

This interview has been edited for length and clarity.