Why It’s Hard to Say Goodbye

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With all the heartache it causes, why do some people have so much trouble letting go of their grief? In an ironic twist, new research shows that the brain's pleasure center may be to blame.

Most people, when confronted with the death of a loved one, mourn intensely for a few weeks or months and then gradually manage to move on. A small percentage, however, become debilitated by the loss and can't resume their normal lives; they experience what psychologists call complicated grief. Functional magnetic resonance imaging (fMRI), which measures blood flow to various parts of the brain, has shown that grief activates regions of the brain associated with processing pain. However, no study had yet observed what happens in the brain during complicated grief.

In the new work, which will be published in the 15 August issue of NeuroImage, researchers led by clinical psychologist Mary-Frances O'Connor of the University of California, Los Angeles, looked at 23 women who had lost a mother or sister to breast cancer within the past 5 years. Based on a clinical assessment, the researchers divided the women into complicated and noncomplicated grievers. They then showed the women a series of 60 pictures that paired a photo of a stranger or the deceased loved one with either a grief-related word (e.g., cancer) or a similar-looking but emotionally neutral word (e.g., ginger). The purpose of the words was to make the images of relatives seem fresh, even if the women had already viewed them several times on their own.

As expected, fMRI revealed strong activity in pain-processing areas of the brain when the women saw photos of their relatives or grief-related words. No such
effect appeared when subjects saw neutral words or photos of strangers. The surprise came when women diagnosed with complicated grief looked at a picture of their relative or a grief-related word: In addition to activity in pain-processing areas of the brain, these women showed activity in the nucleus accumbens, a region of the brain linked to pleasure and reward.

The findings could mean that the brains of women with complicated grief have not properly adjusted to the fact that their loved ones are gone, O'Connor speculates. When humans become attached to someone, they derive pleasure from the attachment, and their nucleus accumbens activate, she notes. And because that area is also active when women with complicated grief see reminders of a dead relative, it may signal that these women have a harder time accepting the death of a loved one than noncomplicated griever. At the very least, says O'Connor, scientists may now have a clinical marker that can help them distinguish among women with complicated and noncomplicated grief.

George Bonanno, a clinical psychologist at Columbia University who also studies grief and trauma, says the study provides an avenue to explore and better treat complicated grief, perhaps via drugs that target the nucleus accumbens. He cautions that a lot of experimental research still needs to be done to properly investigate the mechanisms of grief, because, he says, "it's one of the most common events that we'll have to cope with, and yet it's very poorly understood."