

The Evolution of Emotions and the Imperative of Compassion

Here are some of my takeaways from the recent 2014 CCARE conference on the science of compassion hosted by Stanford Medical School, with many thanks to the work of Paul Gilbert, Sue Carter, Paul Ekman and the other presenters at the conference.

Three basic types of emotions have evolved out of necessity. Paul Gilbert calls these “affect regulator systems.” They are bundles of emotional states with a purpose:

1. To protect against and escape from danger.
2. To gather food and other resources.
3. To reproduce and nurture the young.

Even today, these emotions are fundamental to our survival. If we lose touch with any of them, we are that much less likely to pass on our genes to the next generation.

These three basic emotional systems help us survive and thrive, in the following ways:

1. The protective and safety seeking emotions are focused on threat. They are feelings of fear, anxiety, anger, and disgust. They trigger the fight or flight response of the sympathetic nervous system and release stress hormones and neurotransmitters such as norepinephrine so that we are much more capable of fighting or fleeing.
2. The pursuing, achieving, wanting, incentive-oriented emotions are focused on seeking resources. They are the feelings of the drive to accomplish, excitement, challenge, and vitality. They activate the hunting instincts of pursuit and release hormones such as dopamine to make us better achievers.
3. The peaceful emotions of contentment, goodwill and soothing are focused on connecting with others. They are feelings of being safe, belonging, nourishing and being



nourished. They create the rest and digest (aka the tend and befriend) response of the parasympathetic nervous system that releases neurotransmitters and hormones such as serotonin and oxytocin to help us relax, rest up, and renew.

In the fast-paced modern world it is the third emotional system that has become somewhat eclipsed by the first two systems and as a result overall emotional stability is more easily compromised. This is especially true for anyone who is feeling burned out.

The modern, higher brain (which created the modern world) with its capacity to plan, imagine, ruminate, and be self-conscious tends to keep us vacillating between the emotional states of anxiety and ambition. In fact, we threaten ourselves continuously with thoughts of shame and self-recrimination, and so produce the very same fight or flight response and release of stress hormones as does a physical danger – day in and day out. This chronic sense of threat leads to the “wired but tired” feeling of adrenal fatigue and it starts to damage gastro-intestinal, immune, cardiovascular, endocrine and brain function.

As a result, we rarely experience the third set of emotions associated with contentment, connection and renewal. Our rest & digest/tend & befriend response is withering from lack of use. This is one of the fundamental reasons we feel out of balance and why our bodies and minds begin to malfunction.

However, what is key here is to know that it's NOT OUR FAULT, even though it is our responsibility. Our brain has not finished evolving and it still has a few glitches. Very few people have yet learned how to train the modern brain to be more balanced and to give us a break from

constantly threatening ourselves or clamoring after stuff. The brain is like an untrained puppy that's either barking at imaginary threats or chewing on everything in sight. I happen to have a 12-week old Maltese-Shihtzu puppy with me as I write this so I'm keenly aware of the accuracy of that last statement. It's not his fault, nor is it ours.

Therefore COMPASSION is now an evolutionary imperative. Only from a stance of compassion can we better understand our own human predicament and begin, with heart, to take the steps necessary to train the brain, renew our inner resources, and reestablish a happier, sustainable balance in our lives.

Diagram: Summary of the three biopsychosocial systems with an evolutionary purpose.

THREATENED

Fight or Flight reaction.

Survival & emergency orientation.

Protection and safety-seeking instincts.

Sympathetic nervous system activated.

Hormones released: norepinephrine, cortisol.

Physiology changes: vasoconstriction.

Emotions: anger, anxiety, fear, disgust.

Perception of threat from loss of control, unpredictability, no escape, no connections, and no hope.

Hazardous, corrosive, combative stress: distress

Pathway 1: HPA axis
(hypothalamus-pituitary-adrenal)

CHALLENGED

Resource & reward-seeking instincts.

Incentive or goal orientation.

Hormones released: dopamine.

Physiology changes: vasodilation.

Emotions: drive, determination, ambition, excitement, vitality, confidence, satisfaction, playing to win.

Perception of challenge reduces threat with resources that increase the sense of control/autonomy (pro-active) and hope (for achieving the goal) and by making it more meaningful/predictable.

Healthy, energizing stress: eustress

Pathway 2: Dopamine

CONNECTED

Tend & Befriend reaction

Affiliation-seeking instincts

Parasympathetic nervous system activated

Hormones released: serotonin, oxytocin.

Physiology changes: rest & digest

Emotions: connected, content, safe, non-wanting, kindness, soothing, bonding, belonging

Relationship orientation

Perception of connection reduces threat by increasing the sense of connectedness, hope (strength in numbers), escape (rest, nourishment, safety).

Recovery and relief from stress

Pathway 3: Serotonin, Oxytocin

The key point about all three of these systems is that *they are all controlled to a large degree by our perception—the way we interpret our experiences*. It's just that few people have trained their brain to consciously choose the healthiest perception.

It is our perception of threat that creates the fight or flight reaction. It is our perception of challenge that triggers the resource-seeking instincts. It is our perception of being connected that initiates the tend & befriend/rest & digest response.

What tips the balance in our perception from threat to challenge is access to resources, such as: knowledge, training, skills, allies, friends, funds, food, shelter, medicine, equipment and experience. When we have more resources at our disposal to face a threat we are more likely to consider ourselves capable of handling it, and so see it more as a challenge. Where do these resources come from? All resources are gained through our relationships with others. So the third system associated with connection with others helps to bring balance to the other two (and vice versa).

How we interpret our experience is key, it affects the neurotransmitter and hormonal balances in minute detail. Whether we see another person as a threat to us, as a challenge to deal with, or as a friend to connect with, will affect our stress hormone levels in significantly different ways.

As a result, the habitual way we look at life affects our health substantially. This is not simply “mind

over matter.” It is the intricate way in which our perceptions moderate the body's instinctive responses. This presents an opportunity, and a responsibility.

We can choose to get into the driver's seat and take our life off autopilot. We can choose to explore new perspectives. We can choose to challenge our own assumptions, expectations, and reactions. In this way we can begin to more consciously and compassionately manage these responses and so find a happier balance between these three systems. This way, our interpretation of life's experiences is no longer a danger to our health, but is instead is an asset.

—Simon Fox

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You can see details and a preview of *Oxygen for Caregivers* here:
<http://www.adventuresincaring.org/the-trilogy/for-health-care-professionals/oxygen-for-caregivers/>



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