

On Compassion and Being Human

Stephen G. Post is a professor of preventive medicine and director of Stony Brook University's Center for Medical Humanities, Compassionate Care, and Bioethics. His studies of bioethics and the relationships between health and emotion have made him a frequent guest on radio and television talk shows and an oft-published writer in peer-reviewed science and medical journals. A trustee of the John Templeton Foundation, he is the author of nine books, including (with co-author Jill Neimark) *Why Good Things Happen to Good People: How to Live a Longer, Healthier, Happier Life by the Simple Act of Giving*.



Q. What does it mean to be human?

You have said that altruism is one of humanity's essential and defining characteristics. Is that one of the things that separates us from other creatures?

A. Not entirely. There are nonhuman primates who behave in remarkably altruistic and even empathic ways. So it does not distinguish us in a radical way from a number of species, but the capacity to extend our altruistic capacities beyond kin family to form friendships and ultimately to recognize the value of a shared humanity—that's unique. I don't define altruism as necessitating self-sacrifice, but rather as other-regarding motivation.

Q. So it's human to have empathy? Or is it compassion?

A. It is probably better to use the word compassion because some people are strongly empathic, that is to say they can feel into the feelings of another person—their joys, their sufferings—they can feel those experiences as their own, but then they use this gift for pernicious purposes. Empathy is morally neutral. It is said that Hitler was very empathic. He could be connected with other human beings at a very profound level, but he used that for manipulative and ultimately evil purposes. So compassion is essentially empathy

used for the purposes of good. But most people understand empathy to mean compassion, and I use the word as such.

Q. And compassion is part of what makes us human?

A. I do think that everybody would agree that we have it. It's looked at neurologically. There are certain parts of the brain that light up when we see the suffering of other people or when we witness other emotional states. There's a kind of a resonance that occurs, or an attunement, if you will. There are even brain cells called "mirror neurons." These are considered to be responsible in some degree, for our ability to experience the situation of others as if it were our own. But what we're really talking about is the extent to which we are wired in a way that connects us to one another. The connectivity is the empirical grounding of any moral, ethical life.

Q. You mentioned a part of the brain that lights up when we do charitable acts. In your writings you note that this is the same primitive part of the brain that turns on when we have sex or are eating. What is it called?

A. It is the mesolimbic pathway, the part of the brain associated with feelings of delight, joy, pleasure. And...it doles out dopamine,

which is considered to be a feel-good chemical. There are other elements to it, but it is the part of the brain associated with feelings of delight, and it is in fact shown in a laboratory to be activated when we even think about making a charitable donation, for example. Jorge Moll at the National Institutes of Health wrote a famous article three or four years ago. He gave subjects—who had MRI devices attached to their heads—menus where they could [choose the charities to which they might like to donate]. And when they got a kind of Eureka moment—"I'd like to give to this or that"—they would check the box next to the line item on the menu and the mesolimbic pathway would show activation.

Q. Is there anything else that we do that lights up the mesolimbic pathway?

A. Well, yes, there can be a lot of things, but I think that eating, sex, and altruistic actions are right up there at the top of the list.

Q. As with sex and food, is it possible to go overboard with altruism?

A. There are people who obviously feel almost addicted to giving. There are extreme altruists who...don't balance the care of the other with the care of the self. In extreme cases where someone might be a health care professional who is

under a great deal of routine professional pressure to be empathic with patients, or under circumstances where support for a family caregiver is lacking, people can suffer a kind of compassion fatigue. But for the most part in our everyday lives, when we engage pro-socially, when we contribute to the lives of others, when we think about the common good, we prosper, we gain social capital, and there are certain kinds of internal biological occurrences.

Q. What are the biological occurrences?

A. Oxytocin is considered to be the compassion hormone. It's very prominent in women, of course, especially around childbirth, and it is associated with the deep, solicitous care they feel for the newborn. But it also exists in males, although not at the same levels. There are a number of hormones, vasopressin and others, associated with compassionate behavior.

People who are oxytocin-deficient tend to be less altruistic. There are also impressive studies on the immune system, pointing out that people in more positive emotional states—[experiencing] generosity, compassion, gratitude, as well—tend to have less stress. Stress is bad for the cardiovascular system and bad for the immune system. People in positive emotional states tend to have a little higher level of gamma globulin A, for example, and when they [experience] a protracted negative emotion such as hostility, fear, and the like, they tend to have lower levels of immunoglobulin A. There's a biology of this that is capturing a lot of attention. In essence, this is the biology of ethics. And we have a lot more to learn.

Q. What chemicals are associated with being mean-spirited and spiteful?

A. There are a number of very good studies. One shows that a single abrupt, callous, dismissive interaction elevates cortisol levels for two days.

Q. Is cortisol a bad thing?

A. Cortisol is the stress hormone the adrenal glands kick out from the top of the kidney. Stress is good for fight/flight situations,

as they call it, when you're running away from an attacker or a snake in the grass. But when stress is experienced in an extended, protracted way, it is quite damaging.

Q. I understand that stressed-out people tend as a group to die young.

A. It's not the Type A personality that breeds the problem, it's hostility. That is absolutely validated. These are dramatic findings but they're very powerful and they've been replicated dozens of times. Protracted stress is like acid on metal. ...The basic point is: Emotions matter in the process of healing. Emotions associated with stress, fear, hostility, and the like are destructive in the long run.

Q. When you talk about compassion and emotions as healing things, do people sometimes turn off because they think it's Sunday School stuff as opposed to science?

A. First, there's no way to teach a medical school student to be empathic without modeling. They need role models. We need doctors who recognize that every single day, in every interaction with patients, they are serving as models of compassion. Second, there's exhortation. You ask the students what experiences they remember best in their lifetime and frequently they'll say, "He was great because he cared about me." You can give them a lecture about medical professionalism and let them reflect on compassion and benevolence.

And then the other thing you can do is bring some science to it. Just 15 or 20 years ago you could bring science to schizophrenia or bipolar [disease] and suddenly people could think of these things seriously, as something other than social constructs. And now you can do the same thing with compassion. You can show studies...about how these positive emotional states affect the brain.

Q. Why is the public so cynical about it being good for you to be good?

A. There's a lot of pseudoscience out there that gave us a very, very pessimistic view of human nature.

[Jean-Paul] Sartre thought that anytime anyone was looking kindly at you they were simply being manipulative, so watch out! Or Robert Ardrey in *The Territorial Imperative*, another big pseudoscientific distortion, said that any nonhuman primate is a bush-whacking criminal—and so are we. And then along comes Frans de Waal in *Our Inner Ape*, [who] shows us that nonhuman primates are capable of significant compassion and tenderness to the most imperiled among them. It's not uniform, but that side of their character is there to be observed.

Freud thought of human nature in terms of eros and thanatos, the erotic and the death wish. He didn't have anything to say about compassion or human nature—this is at least my interpretation of him, and I know others may disagree.

There was a lot of bad science out there in the 1950s—and '80s and '90s. But what we've seen in the past five to ten years is an effort to find a better balance. Not that there isn't a side of human nature that's greedy, nefarious, cruel, and potentially brutal. It's there. But equally significant is this very engrained capacity for compassionate love. Which side wins out depends on which side we nurture.

Q. What would Charles Darwin say about humans being hard-wired for compassionate love?

A. The most recent interpreters of Darwin argue that he believed there was a lot of this in human nature. He was misinterpreted by the social Darwinists—by [Herbert] Spencer and [Thomas] Huxley and people who inherited the kind of brutal image of individualism that came from [Thomas] Hobbes and other British philosophers. But if you really look at Darwin, he believed that it would be perfectly natural and selectively adaptive for human groups to have lots of altruistic, empathic, compassionate, benevolent tendencies. Because a group that evolved in that way would have a distinct advantage over other groups in the same sense that any organization that has a lot of internal care and compassion is going to fare better under stress. Darwin strongly believed that a fair amount of evolution occurred not between individuals

but between groups. As soon as you start talking about what's called group selection theory, then the idea we are wired to be good neighbors begins to make sense.

Q. Is being evil an essential and defining characteristic of mankind?

A. Human nature is capable of some very nefarious things. Part of it is because there are some individuals who are, quite frankly, born sociopaths in the sense they don't have the neurological equipment to feel compassion. They cannot feel into the experiences of other people, so the suffering of others means nothing to them. [This] probably [pertains to] 2 percent to 3 percent of people. They're not all serial killers, you know. Some of them are probably running Wall Street firms and have ruined a lot of lives. They just don't have

the sort of normal connectedness... There are people who are raised in such disturbing ways that... all the wrong buttons are pushed. They live very difficult, hostile lives. Hurt people hurt people.

Studies point out that... human evil [occurs] when our compassionate tendencies are overwhelmed by an equally important tendency, which is hierarchical virtue, hierarchical obedience. There is no question that human nature—*homo sapiens*—evolved in hierarchies. The primate world is full of hierarchies. If your hierarchy is telling you to kill Jews in Nazi Germany, a lot of otherwise reasonably good people will go out and do that. In fact, many of the defendants in the Nuremberg trials... said, "I was just doing as I was told." That's what they said in the Tuskegee syphilis experiments, [too].

There are lots of things that can inhibit this capacity for compassion, but my point is simply that it is very much a part of 99 percent of us, and we need to take it very seriously. We ought to have more confidence in our own good nature and... celebrate the fact, which I believe Darwin did, that evolutionarily there would be actual biological benefit to operationalizing these kinds of capacities because they would be to the advantage of our group and to the advantage of ourselves as parts of groups.

What's interesting is there's an epidemiology of it: A positive emotional life has lots of benefits, not just for other people but also for ourselves. ■

Learn more at www.stonybrook.edu/bioethics

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Evolution Revolution

By Margaret Jaworski

It's the question that Charles Darwin himself could not answer: What makes human interaction so unique? In their new book, *Death From a Distance and the Birth of a Humane Universe*,

Stony Brook University colleagues, collaborators, and researchers Paul M. Bingham and Joanne Souza argue that humans are unique among all animals for a single, simple reason: our ability to manage conflicts of interest. This exclusive capacity is at the core of this far-reaching theory of everything human.

Two million years ago, we were a stone's throw away from becoming human. Humans are the only animals on Earth that can throw with precision and purpose. As it happens, "the prosaic skills utilized today in baseball turn out to be the foundation of all things human," says Bingham. This skill may explain why A-Rod and Jeter make millions, but how does it explain human social evolution?

According to Bingham and Souza, this novel physical virtuosity—what they've dubbed "elite throwing"—probably evolved some two million years ago as part of a hunting or scavenging adaptation. Elite throwing was the fertilizer that nourished some "unexpected, revolutionary, unique advantages for these proto-humans," says Bingham. It allowed our hominid ancestors to develop the capacity to ostracize, coerce, punish, and even kill members of their own species from a distance, thereby reducing their individual exposure to harm. It also fostered cooperation. Clearly, a hail of rocks—and later arrows, bullets, etc.—is more effective and efficient than a lone stone thrower.

When you have multiple individuals teaming up to hunt for food, scare off predators, or coerce others to behave, you get what Bingham and Souza describe as "cheap law enforcement," which then opens the door to broader cooperation, along with more effective communal living.

Bingham and Souza's theory of human uniqueness springs from their belief that "conflicts of interest" dominate all human social interaction.

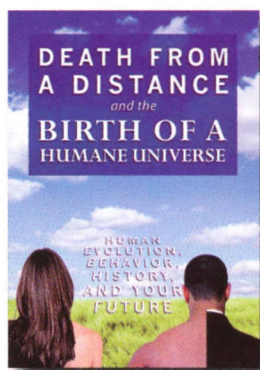
"Conflicts of interest are to social behavior what gravity is to astronomy," says Bingham. "What this means is that all organisms have an incentive to compete with one another for access to scarce, crucial resources and assets needed to survive and reproduce," says Souza. "Humans became different because we could 'inexpensively' control these conflicts of interest. And consequently we are the only animal species on Earth to show extensive kinship-independent (nonrelative) social cooperation," says Souza.

And because humans could cost-effectively control conflicts, for the first time natural selection could "reward individuals who actively suppressed conflicts of interest in others. Not putting up with liars, cheats, thieves, and other miscreants became biologically adaptive," says Bingham. All the evolutionary milestones that followed—larger brain size and language, for example—are the "result, not the antecedent, of cooperative nonkin

behavior." As cooperation thrived, information passed more freely, language evolved to spread the information, and brain size expanded to process and store that information.

Bingham and Souza admit that on the surface, their theory might be unsettling. "It can seem a little disturbing to think that humane behavior emerges from our mutual access to coercive threat," says Bingham. "But it is precisely this shared capacity for law enforcement that enables and empowers the better angels of our uniquely human nature."

"We can use our unprecedented evolved ability to project threat remotely (hence *Death From a Distance*), to insist on an entirely new scale of social cooperation (hence *Birth of a Humane Universe*). Everything human about us flows—powerfully and simply—from this evolved insistence on mutual collaboration."



Death From a Distance and the Birth of a Humane Universe is available at <http://deathfromadistance.com>.