April 2019

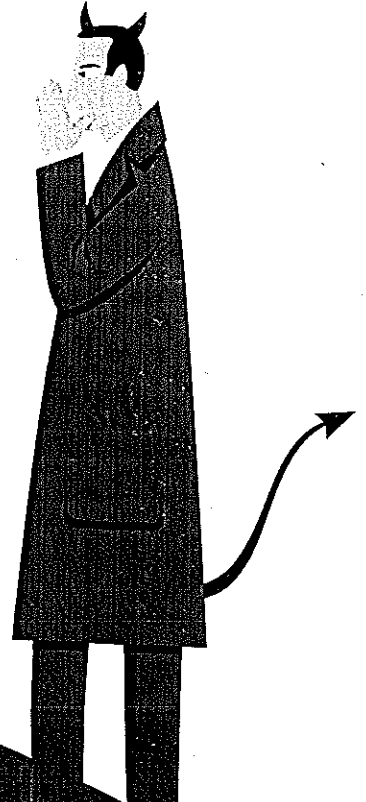
SPECIAL TIME EDITION

THE SCIENCE OF GOOD & EVIL

WHAT MAKES US MORAL

GOOD DEEDS, GOOD HEALTH

UNDERSTANDING THE DARK SIDE



PLUS
DO ANIMALS HAVE ETHICS?

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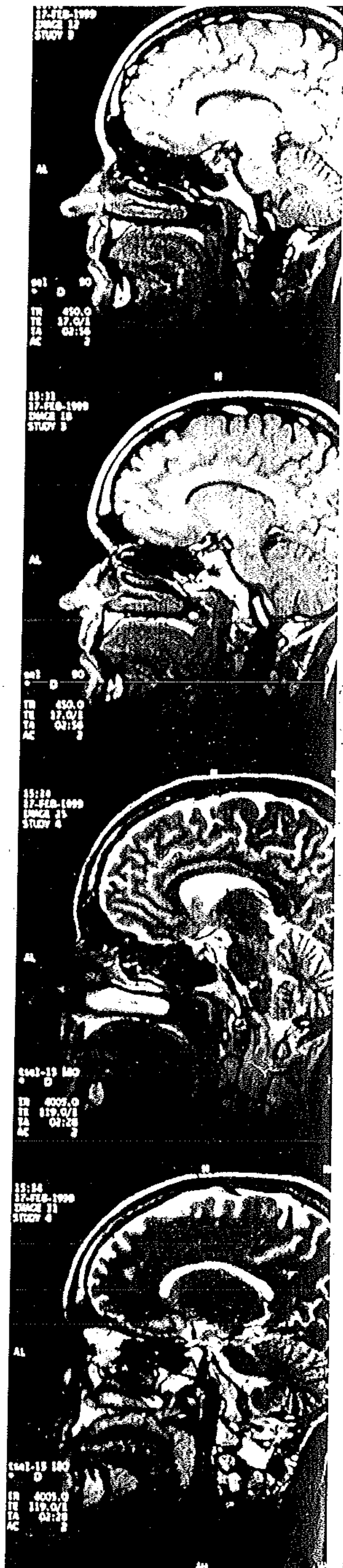


In these sagittal, or side view, sections of colored MRI scans, the largest part of the brain is the folded cerebrum. This area dictates our conscious thoughts.

Parts of this edition appeared previously in TIME.

GOOD DEEDS, GOOD HEALTH, GOOD LIFE

It's not always easy to motivate ourselves to help other people, but it increasingly seems it's in our interests to try. A growing body of research shows the health benefits of acting for others

BY KATE ROPE

RICK ADLE CREDITS HELPING OTHERS WITH GETting his life back after a gruesome yard-work injury 25 years ago. Adle, a commodities trader in Atlanta, Ga., was pulling up tree stumps in his front yard when the 6,000-pound tractor he was driving flipped over. Adle's pelvis separated from his spine and he broke his back in three places.

"They thought I wasn't going to survive," he says. "They had to teach me how to walk again."

It was a grueling year, and Adle could have been forgiven for thinking about nothing but his recovery. In that same period, however, he learned that a church near his home had burned down. A devout Christian, he could not ignore that tragedy. "I felt like there had to be a reason I didn't die," he says.

When Adle had recovered from two surgeries and months of rehabilitation, he got together with a friend and recruited a team of volunteers to build a new church for the congregation. "After I was able to do that," he says, "I felt like I could do anything."

And the years since have proved that self-assessment correct. In the wake of Hurricane Katrina in 2005, Adle went to Mississippi to help families rebuild; then he started going to Mexico to build houses for people in need. Now 70 and retired, he and a friend organize a yearly trip to take dental students to Haiti to offer free care.

Adle's faith in the life-changing power of giving service is backed up by a large and growing body of research that shows tangible physical and men-

In Benton Harbor, Mich., former president Jimmy Carter helped build houses for Habitat for Humanity in an effort to give families their forever homes.

tal health benefits to doing unto others as you would hope they would do unto you.

"People who are givers are happier and across the board tend to have better mental health," says Stephen Post, author of *Why Good Things Happen to Good People: How to Live a Longer, Happier, Healthier Life by the Simple Act of Giving*. "They also show up with better health generally and may even on average live a little longer."

Post has devoted his career to exploring this surprising idea and is a bit of an evangelist for the field of research. In fact, in a 2017 review of the science, he argued that the benefits of service are so great that care providers should actually prescribe volunteering (in increments of about two hours per week) to their patients.

WHAT ARE THE BENEFITS?

THE HEALTH BENEFITS OF giving are not easy to quantify, and the research admittedly relies at least in part on the subjective experiences of the volunteers themselves, but the sheer number of such experiences are very difficult to deny. A 2010 online survey of more than 4,500 Americans found that 96% of people who volunteered reported that it made them happier and 68% said it made them "feel physically healthier." In addition, more than three quarters of respondents reported that it increased their sense of purpose, lowered stress levels, improved overall emotional health and—as Adle experienced—improved their resilience and ability to recover in the face of "loss and disappointment."

ONE STUDY FOUND THAT VOLUNTEERS LOWER THEIR SHORT-TERM RISK OF DEATH BY 24%

That's a pretty persuasive pack of numbers, even if a survey is low on the scale of scientific evidence. But more rigorous research has also shown impressive results.

Several longitudinal studies (which follow a fixed group of people over an extended period of time) have found that being involved in volunteer work is associated with increased longevity, and one meta-analysis of 14 studies conducted in 2013 found that people who volunteer lowered their chance of dying over a fixed period of time, like the next year or five years, by 24%.

"People who volunteer are happier, less depressed, less anxious and less likely to die," says Sara Konrath, an associate professor at the Lilly Family School of Philanthropy in Indianapolis. "That's a robust finding over and over again."

What folks in the field are still working to discover, however, is why—and at the moment there are no firm answers.

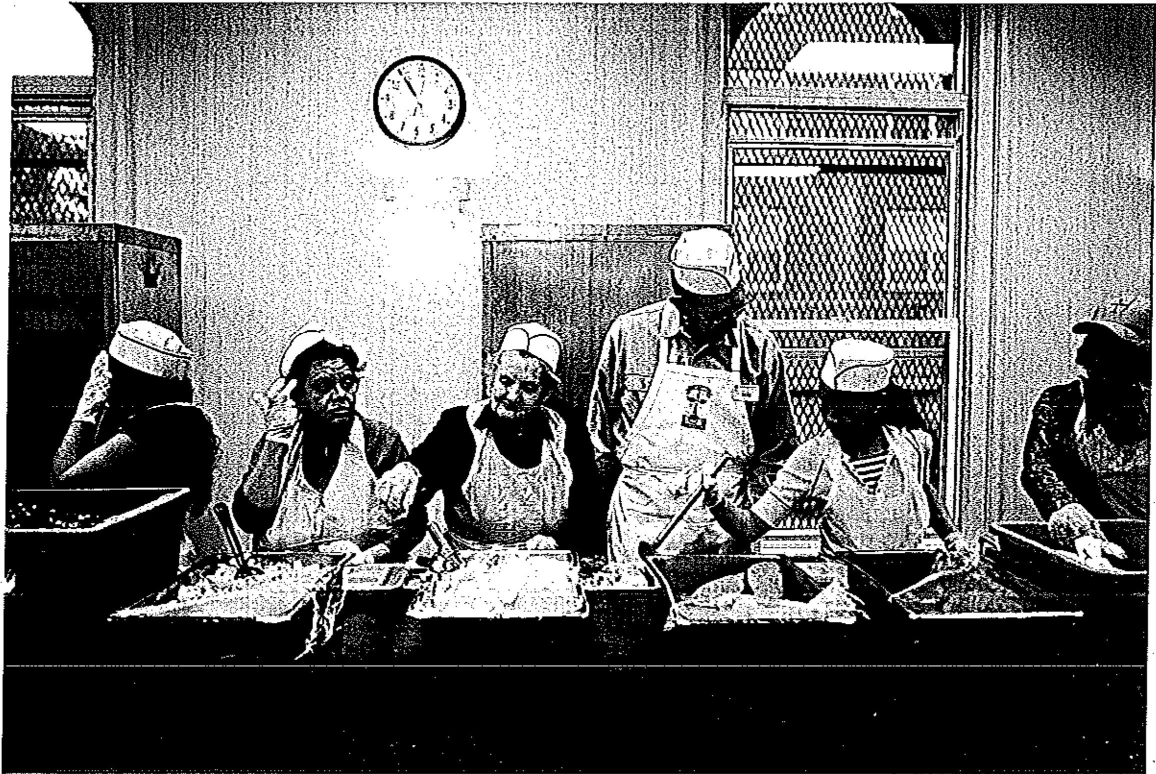
"I don't think we have a solid handle on whether it's volunteering itself or something that comes along with it," says Konrath. There might be something about people who choose to volunteer to begin with—their personalities or their outlook on life—that drives the health benefits. They are often in higher income brackets, which is associated with better health. It might also be that, as Konrath's own research suggests, "volunteers might not just be good at taking care of others but also good at taking care of themselves."

In one study, she found that volunteers were more likely to use preventive health care, and, perhaps as a result, they spent 38% fewer nights in the hospital. "Volunteers were 30% more likely to get flu shots and 47% more likely to get cholesterol tests," says Konrath. "Female volunteers were more likely to get mammograms and pap smears and male volunteers more likely to receive prostate exams."

If the results don't have to do with the preexisting behaviors of the volunteers but rather with something that flows from the act of volunteering itself, what is that something? Is it that you are more physically active, or that volunteering increases your social connections, which is associated with better health? Or is it something else entirely?

The answer is complicated, and investigators try to control for all possible variables before they can tease out which are the relevant ones. They also are working to determine what aspects of health are most benefited by volunteering.

Two 2013 studies, for example, showed that volunteering may improve heart health. In one, older



Holy Apostles Soup Kitchen in New York City serves 1,100 meals each weekday in the midst of rising food prices.

adults (ages 51 to 91) who volunteered about four hours per week were 40% less likely to have high blood pressure than those who did not volunteer. The other study—a groundbreaking paper published in *JAMA Pediatrics* in 2013—found that volunteering improved cardiovascular health in adolescents, which may put them on a path for better heart health throughout their lives.

Hannah Schreier, an assistant professor of behavioral health at Penn State University, split 106 Canadian high school sophomores into two groups. One group volunteered weekly in an elementary school and the other was kept on a waiting list for volunteering opportunities (one of the only ways to create a control group in volunteering studies).

"Three months later, those who had volunteered had significantly lower cholesterol levels and body mass index," says Schreier. They also had lower levels of interleukin 6, a chemical in the blood that is associated with higher levels of inflammation.

Perhaps most intriguing, Schreier says, is that "when we looked at empathy and altruism, we saw that [among volunteers], those who had higher levels of altruism had the lowest cholesterol levels and the ones with highest empathy had the lowest inflammatory levels." That suggests that why you help others might be important to the health benefits you get from the work.

YOUR REASONS COUNT

ALTHOUGH "NO ONE HAS NAILED DOWN A SINGLE precise mechanism by which engaging in helping behavior improves health and well-being," says Michael Poulin, an associate professor in the department of psychology at the University of Buffalo in New York, "we do know that motives seem to matter."

In a 2012 study, Konrath found that when people volunteered for reasons related to themselves—such as wanting to learn a new skill or try new things—they had a marginally significant increase in their chance of dying during a four-year period. But those who volunteered because they were thinking about others lowered their mortality risk significantly. And the more they identified with being motivated by others, the greater they decreased their risk.

Children who contribute to their families or communities are shown to experience a greater sense of well-being.

Poulin's research suggests that how you perceive other people may play a role. In a 2014 study published in the journal *Health Psychology*, he found that volunteering helped protect participants from the effects of stress, but only when they believed that "other people are good and benevolent," says Poulin. "I took that to mean you have to really care about the people you are helping." Poulin's theory makes evolutionary sense.

"There's a whole body of literature that shows that those groups who are the most cooperative are the ones that survive adversity," says James R. Doty, a neuroscientist and founder of the Center for Compassion and Altruism Research and Education at Stanford Medical School. Contrary to the popular view of survival of the fittest, says Doty, "Short-term ruthlessness can be beneficial, but long-term survival of a species requires cooperation."

Doty pinpoints two critical moments in evolution that contribute to that fact. The first was when we became high-level mammals with brains capable of things like abstract thought and complex language, which meant we had to be born sooner than other mammals (so our big heads could get down the birth canal) and had to be nurtured for as long as 20 years to survive. "That's an extraordinarily long period of time," says Doty, and it comes at great cost to parents. "Why would you do that?" asks Doty. "Because you get rewarded."

When parents respond to their children, for example, they experience a release of neurochemicals—most notably oxytocin and dopamine—which "makes you feel good and connected," says Doty. "You have what's called a 'warm glow.' "

Layered on top of that are changes that happened when we evolved from little families of cave people to hunter-gatherer tribes of 10 to 50 members. "If someone was in distress or suffering, they potentially could put the tribe or group at risk because they are not doing their job," says Doty. "So we also responded to those within our tribe or group, because this was a survival strategy for our genes. We have this capacity to respond to others in our group who are suffering."

And we are rewarded individually when we do it. "When you care and nurture another, you tap into your parasympathetic nervous system, which gives

you a sense of a sense of calmness and inclusiveness," says Doty. "This is when your physiology works best, and that is the origin of this warm glow." That, in turn, says Doty, may explain the stress- and anxiety-relieving effects of volunteering.

As Charles Darwin wrote in *The Descent of Man*, "We are impelled to relieve the sufferings of another in order that our painful feelings may be at the same time relieved."

But why do we want to help strangers who, in theory, can offer nothing to ourselves or our tribe? Studies show that when people are given intranasal oxytocin (to mimic the release they would naturally get in a caregiving moment), they feel a bond or connection to other people in their close network. However, that same hormone spritz does not make them want to connect with people outside their group.

And yet Rick Adle wanted to help people so far outside his immediate group that they lived thousands of miles away. In his case, the answer could be found in more recent research that suggests that you can overcome the disconnections of tribal distinctions just by "looking at others and thinking of the things you have in common," says Doty. Consider the desire for peace in a community or the need for basic things such as shelter and food—universal values. When subjects tap into "this idea of common humanity, it breaks down this tribal separation and you have more of a response from oxytocin," says Doty.

THERE ARE LIMITS: TOO MUCH CAREGIVING MAY LEAD TO COMPASSION FATIGUE

VOLUNTEERING IS FOR EVERYONE

"IF YOU CAN RAISE A CARING CHILD, THAT CHILD is likelier to be happier and probably live a longer and healthier life," recommends Post, whose work now centers on studying and advocating for service as a way to prevent and recover from addiction—particularly among adolescents.

Those contributions can start in the home, says Andrew Fuligni, a professor in the Jane and Terry Semel Institute of Neuroscience and Human Behavior at UCLA. Fuligni has studied children ages 14 to 22 who contribute to their family in the form of chores, providing translating help to family members (in the case of immigrant families) and even giving financial support. "When kids provide assistance to the family, it gives them a sense of role fulfillment," says Fuligni, "that they are a contributing member of the family, and they do feel a greater sense of well-being."

"It's important for us to provide adolescents with opportunities to contribute, because the research suggests there are psychological and health benefits," says Fuligni. "It helps them figure out how they fit into society."

But there are limits: Fuligni's research has found higher levels of inflammation in those who are burdened by too many duties around the house, and that same too-much-of-a-good-thing idea follows us out of the home too. Volunteering much more than two hours per week can have diminishing returns, wrote Post in his 2017 review article. "Overdose" is possible when "helping becomes stressful and potentially harmful," he adds.

Poulin has found that when individuals are taking care of a sick spouse, the positive emotions they gain from caregiving are dependent upon how they see the relationship. "If you believe the relationship to be interdependent and not lopsided, providing help tends to increase the incidence of positive emotions." If the relationship feels one-sided to the participants, on the other hand, Poulin says it increases negative emotions in caregivers.

And those whose professional work involves taking care of others (such as health care and social workers, pastors, and teachers) are at risk of experiencing compassion fatigue. For them, writes Post, "the need is not for volunteering so much as for balance and care of self."

For everyone else, Post's prescription varies. The research, he says, supports as much as four hours per week for older retired adults and as little as one hour for adolescents. Regardless of dose, his prognosis is clear: "When you get your mind off the problems of the self and just ask, 'What can I do to contribute to the lives of others?,' you're in a very healthy space." ◻