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## Payback Time: Why Revenge Tastes So Sweet



Photo: Revenge gone awry: In July 1804 Aaron Burr challenged Alexander Hamilton to a duel, with unhappy results.

By BENEDICT CAREY

A raised eyebrow was all it took.

She waited until a year after the breakup, until after he had proposed to the other woman -a model, did he mention that? -- and the new couple had begun planning the wedding. That's when she ran into a mutual friend who had spent a few days staying with her ex.

"And you were, uh, comfortable staying there?" she said to the friend.

What are you talking about? he said.

And then the eyebrow arched, and voilà, suspicions about her former boyfriend were loosed.

"Yes, I'm a Scorpio, so I'm vindictive," said the woman, who swore certain payback if her name appeared in this newspaper.

Vindictive, perhaps, but also fundamentally protective. Revenge may be frowned upon, viewed as morally destitute, papered over with platitudes about living well. But the urge to extract a pound of flesh, researchers find, is primed in the genes.

Acts of personal vengeance reflect a biologically rooted sense of justice, they say, that functions in the brain something like appetite. Alternately voracious and manageable, it can inspire socially beneficial acts of retaliation and punishment as well as damaging ones. The emerging picture helps explain why many people who think they are above taking revenge find themselves doing nasty, despicable things, and how unconscious biases pervert what is at bottom a socially functional instinct.

"The best way to understand revenge is not as some disease or moral failing or crime but as a deeply human and sometimes very functional behavior," said Dr. Michael McCullough, a psychologist at the University of Miami. "Revenge can be a very good deterrent to bad behavior, and bring feelings of completeness and fulfillment."

Retaliatory acts, anthropologists have long argued, help keep people in line where formal laws or enforcement do not exist. Before Clint Eastwood and Arnold Schwarzenegger, there was Alexander Hamilton, whose fatal duel with Aaron Burr was commemorated this month on the banks of the Hudson River. Recent research has shown that stable communities depend on people who have "an intrinsic taste for punishing others who violate a community's norms," said Dr. Joseph Henrich, an anthropologist at Emory University in Atlanta.

In one experimental investing game involving four players, for example, people pay to punish others who contribute meager amounts to the shared investment pool. In another, a one-on-one exercise in sharing a sum of money, people often reject any offer from a partner that is not split 50-50 or close to it, denying both players a payoff. The participants are typically strangers who will not see each other again, Dr. Henrich said, so they are not penalizing others to develop an equitable relationship in the future. They are retaliating to enforce the rules that hold the game -- and, theoretically, the community -- together.

Using brain-wave technology, Dr. Eddie Harmon-Jones, a neuroscientist at the University of Wisconsin, has found that when people are insulted, they show a burst of activity in the left prefrontal cortex, a part of the brain that is also active when people prepare to satisfy

hunger and some cravings. This increased activity, Dr. Harmon-Jones said, seems to reflect not the sensation of being angry so much as the preparation to express it, the readiness to hit back.

The expression itself is all pleasure. In one recent experiment, psychologists demonstrated that students who were ridiculed were far less likely to avenge themselves on an offensive peer if they had been given a bogus "mood-freezing pill," which they were told blocked the experience of pleasure.

"We've shown many times that expressing anger often escalates and leads to more aggression," said Dr. Brad Bushman, a psychologist at the University of Michigan who conducted the study, "but people express it for the same reason they eat chocolate."

Savoring the taste can be satisfying enough. When Kurt Raedle, 40, a salesman in Kansas City, Mo., had a new leather jacket stolen from a party, he fantasized about getting his hands on the thief. A month later, a friend spotted the rascal wearing the jacket at a bar and helped Mr. Raedle track him down. Mr. Raedle said he telephoned him. "He was guilty, and he wanted to mail the jacket to me, but I said no. I wanted him to return it, in person, to my parents' house. I wanted him to face the parents of someone he'd stolen from."

The penalty: a half-hour discourse on morals and life lessons from Mr. Raedle's father, all 6 feet 4 inches and 250 pounds of him.

This kind of payback is closer to what sociologists and philosophers call just-deserts retribution. Dr. John M. Darley, a professor of psychology and public affairs at Princeton University, said such actions involve a deliberate effort to tailor the retribution to the crime, often taking into consideration as many relevant details about the offender and the offense as possible.

In some cases it may be possible for people to assuage their feelings of outrage by publicly protesting the injustice. In one 2003 study, Dr. Harmon-Jones tracked the brain-wave patterns in students who had just been told the university was considering big tuition increases. They all got angry, he said, but signing a petition to block the increases seemed to give many some satisfaction.

Yet the nature of appetite-like urges, scientists say, is to err on the side of excess. Although soup and salad might suffice, hungry people dream of the dinner buffet. Likewise, those who feel wronged very often overdo it, engaging in extravagant, almost sensual fantasies of payback -- of wrecking a household, snuffing a career, dancing on a grave. "Think of the urge as kind of hunger, a lust, a deficit the brain is seeking to fill," Dr. McCullough said, "and you can see why revenge fantasies can be so delicious."

When people are committed to a relationship, studies suggest, they usually content themselves with a perfunctory quid pro quo for the day's small abuses: He's not helping with the party, let him find his own food. She's burning money on the cell phone, time to misplace it.

People are exquisitely sensitive, if not always conscious, of this subtle give and take and usually manage it without lashing out. But wisecracks or other offenses that challenge people's most cherished beliefs about themselves -- their discretion, their generosity, their toughness, their intelligence -- can prompt a craving for payback that goes much deeper.

"You're talking about small events in everyday life that can look insignificant until they touch some old conflict, some longstanding betrayal or shame the person carries," said Dr. Irwin Rosen, a psychoanalyst in Topeka, Kan., who studies the role of revenge in pathology.

Dismayed and ashamed at their own vulnerability, some people exact the revenge on themselves, Dr. Rosen said. What looks like self-defeating behavior or even masochism is fueled by a deep desire to hurt someone close. One of his former patients, a 32-year-old doctor, was drinking herself out of a career and had left a trail of ex-husbands, he said -- partly, it came out in therapy, to get revenge on a brilliant father who had insisted on flawless devotion from his children.

Most vengeful acts are covert, researchers say, traveling in whispers and unforwarded phone calls, in knowing glances and nasty rumors.

Few people want to look vindictive.

"The ideal," said Dr. Robert Baron, a psychologist in the school of management at Rensselaer Polytechnic Institute in Troy, N.Y., who has studied workplace reprisals, "is to ruin the other person without him knowing what happened, without him knowing if anything happened."

Dr. Baron estimates that the ratio of indirect to direct acts of revenge is at least 100 to 1. As protective as this indirection is, however, it gives people a false sense of control. A person who feels deeply offended may respond with a half-payback -- missing an appointment, lapsing into grim silence for a short period. This common ploy, Dr. Rosen said, allows people to feel they have retained the moral high ground. Consciously or not, they are giving

themselves wiggle room to exact more payback, if they wish, because they have not delivered the full measure.

"The whole time you're saying to yourself, 'At least I haven't sunk to their level," Dr. Rosen said.

The problem, psychologists say, is that one man's restrained response is another's body blow. While acts of vengeance may be carefully measured, their impact is ultimately unpredictable, and they may invite the kind of backlash that turns a small grudge into a lawsuit. Many people Dr. Baron interviewed had waited for years to get even with others who had themselves probably forgotten the offense, plotting until they got an opportunity to "torpedo their enemy's career," he said. During the interviews, some even rubbed their hands together at the memory, like cartoon villains.

Chuck Moore, 52, a retired salesman living in Loveland, Ohio, said his mother had canceled his father's funeral at the last minute because she did not want anything good said about the man. "People came. The church was closed. Motto: watch out, the last word is by the living," Mr. Moore said in an e-mail message.

Researchers have found a number of ways people can peaceably satiate their hunger for revenge: Work to feel empathy for the other person. Savor what advantages you do have. Pledge to behave even if the urge for vengeance lingers -- to behave, if not to forgive. Think for a while about the nasty things you have done.

But there is another option, said John Sawyer, 44, a Denver businessman who lived daily with an urge to exact revenge after being shot one February night in 1987 during a botched robbery attempt.

It took Mr. Sawyer six months to recover physically from the gunshot wound, and about a year before he stopped being angry at the three men who hurt him.

"I felt that forgiving them was its own kind of revenge," he said. "It showed they hadn't defeated me; it was like I had risen above what happened, and above them."

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