

# Contagious Thoughts

By BRUCE BOWER

Under a 'magical law,' good and evil prove as infectious as germs

A young woman contemplates slipping into a sweater previously worn by her ex-boyfriend, but she finds the garment repulsive. "It's the fact that he could somehow transmit — uh, somehow the object would pick up some negativity," she explains to a research psychologist. "I'm not saying it would smell or have dandruff on it, but it would be creepy because he's a creepy person."

A man in the same study rejects a thoroughly laundered sweater once worn by a hepatitis victim. "I'd feel it was contaminated in some way, not only that I could get hepatitis from it, but that it was somehow contaminated, it's just not clean," he tells an experimenter. "I don't really think you could get [hepatitis] that way."

Do these cases represent rare lapses into superstition or "magical thinking" on the part of otherwise rational folks? Just the opposite, asserts psychologist Carol Nemeroff of Arizona State University in Tempe. Her research indicates that many adults routinely subscribe to some form of what Nemeroff calls "the magical law of contagion," a traditional belief noted in many non-Western cultures by anthropologists. From isolated New Guinea tribes to crowded New York streets, contagion beliefs hinge on the conviction that all sorts of sources — including friends, enemies, food, blood and hair — contain some sort of contagious entity or "essence" that transfers physical, psychological or moral qualities to others through direct or indirect contact.

For example, many people assume that something positive literally "rubs off" from individuals they consider special. This outlook finds striking expression in pledges never to wash a hand again after touching a famous person; it also stokes the craving for the autographs and former possessions of celebrities. Conversely, individuals perceived as evil take on the powers of a pernicious King Midas: Everything they touch turns loathsome rather than golden. Would you wear Saddam Hussein's sweater? How about Adolf Hitler's hat?

Despite its ubiquitous, largely unconscious nature, "contagion thinking" in the United States usually falls short of an outright belief in magic, argue Nemeroff and psychologist Paul Rozin of the University of Pennsylvania in Philadelphia, who collaborated on a study presented in June at the annual meeting of the American Psychological Society (APS) in Washington, D.C. Instead, people focus on the

meaning implied by contact with a positive or negative object, while sometimes harboring a nagging suspicion that a spiritual or nonmaterial force emanates from the object.

"When people realize they're using this type of thinking, it commonly creates an uncomfortable state of conflict between head and heart, logic and feelings," Nemeroff maintains.

Public attitudes about AIDS illustrate this internal conflict, she notes. Many people stubbornly keep their distance from people with AIDS, even making pariahs of them, despite knowing that casual contact cannot transmit the virus. Further study of contagion thinking may help explain this irrational behavior. In the meantime, says Nemeroff, educational campaigns need to address the surprisingly common scrapping of intellectual acceptance in favor of a gut-level rejection of AIDS victims.

Several studies conducted in the 1980s by Nemeroff, Rozin and their co-workers probed the ways in which thoughtful, educated adults routinely engage in contagion thinking. For example, college students avoid a drink if told that the liquid momentarily touched a boiled, sterilized cockroach; they prefer shirts previously worn by a liked person to those worn by a disliked person; and they throw darts less accurately at a target covered with a photograph of a good or liked person than a target displaying a bad or disliked person.

Moreover, many young adults hold an unacknowledged conviction that different foods transfer specific physical, psychological and moral properties to their consumers — that in essence, "you are what you eat." Nemeroff and Rozin reported a study of this phenomenon last year in *ETHOS* (Vol. 17, p.50), a publication of the Society for Psychological Anthropology. The researchers presented college students with descriptions of two imaginary tribes — one with a diet based heavily on sea turtles, the other with a culinary fondness for boars. Participants rated the turtle-eating tribe as possessing traits these students had associated with turtles during an earlier phase of the study, such as generosity, shyness, long life, slow movement, good swimming ability, peacefulness and green eyes. Likewise, they rated the boar-eating tribe as having qualities they previously had linked with boars, including irritability, excitability, unreliability, short

life, fast movement, good running ability, aggressiveness and brown eyes.

Many non-Western cultures heed the "you are what you eat" principle, Nemeroff notes. For instance, members of the Tairora culture of Papua New Guinea consider breast milk a prime means for a mother to pass on positive aspects of her personality to offspring. And groups in several parts of the world prohibit excessive meat eating because they believe it inflames the animal nature of human carnivores.

Some people in the United States base moral judgments of others on the foods they eat, according to an unpublished study presented at the APS meeting by Nemeroff and Arizona State colleague Richard I. Stein. The researchers presented groups of male and female college students with one of four descriptions of a fellow student: an active, physically fit male who regularly eats fattening and potentially unhealthy foods, such as hamburgers and doughnuts; a female with those same characteristics; an active, physically fit male who regularly eats healthy and nonfattening foods, such as salad and chicken; and a corresponding female. The brief profiles of the two male and two female students described them as having identical heights and weights. Nevertheless, participants rated the male and female who ate high-fat foods as less active, less fit and heavier than their respective counterparts. The two who ate healthier foods received higher ratings on physical attractiveness, likability and femininity, regardless of gender.

Nemeroff and Stein note a preoccupation with dieting and a high rate of eating disorders among U.S. women, and they theorize that this stems in part from women's greater awareness of, or sensitivity to, moral judgments about food, rather than from a general tendency in our society to frown upon women — but not men — who eat unhealthy, fattening foods.

Whether contagion thoughts focus on a hot fudge sundae, an oat bran muffin or some inedible object, says Nemeroff, at least five "mental models" guide such beliefs:

- a germ model, in which contagion travels in some living form invisible to the naked eye
- a residue model, in which odor, dandruff or other perceptible residues transmit contagious qualities

- a symbolic model, in which the meaning implied by contact with an object assumes prime importance – as in the notion that wearing Hitler's hat suggests acceptance or approval of his actions

- a spiritual essence model, emphasizing a nonmaterial quality of the contagious source – as in the belief that the Pope's positive personal energy inhabits a sweater he once wore

- an association model, in which an item serves as a pleasant or disturbing reminder of its source.

In extensive interviews with 36 men and women living in the Philadelphia area, Nemeroff and Rozin identified some of the ways in which these models mold the thinking of adults in the United States. The volunteers rated their feelings about wearing imaginary sweaters previously in contact with one of eight sources – a spouse or lover, a self-defined good person, a self-defined sex symbol, a personal enemy, a self-defined evil person, an anonymous hepatitis victim, an anonymous AIDS victim, and dog feces. They then rated their feelings about wearing each sweater after various "purifying" actions: washing the sweater or airing it out; altering it through gashing, reknitting or burning; having it worn by a person with qualities contrasting with those of the original source; or allowing a year to pass since the source came in contact with the sweater.

Participants' attitudes toward the hypothetical sweaters revealed a widespread reliance on all five models of contagion thinking, especially regarding sources perceived as negative, the researchers reported at the APS meeting. Everyone in the sample perceived a sweater from at least one negative source as transmitting substantial negative effects, although in one case, a respondent said he liked the idea of wearing any famous person's sweater no matter how vile or notorious the person's deeds.

In contrast, only 19 of the 36 volunteers perceived strong positive effects from a sweater worn by a positive source; the rest reported either negative or no effects.

When weighing the merits of a sweater exposed to illness or dog feces, participants generally used the residue or germ model. When considering a sweater worn by good or bad people, they tended to use the symbolic model. However, the models often coexisted, as in the case of the man who disdained a laundered sweater once worn by a hepatitis patient, for fear of picking up either a physical germ or some undefinable contamination. Others described fears of picking up germs or bodily residue from laundered sweaters worn by evil-doers or personal enemies.

Moreover, volunteers with symbolic concerns about a negative source often made spontaneous comments that also

implicated a spiritual essence, Nemeroff says. One woman rejected her enemy's sweater "because he'd give it cooties – not that I think he has cooties, but he's just a nasty person and oozes nastiness."

Such thinking does not reflect a magical belief that harm inevitably follows the wearing of an evil person's sweater, or that health and success flow from a good person's garment, Nemeroff says, but it does suggest that contagion thinking runs along a continuum from metaphorical concepts ("It's as if I was endorsing his behavior by wearing his sweater") to magical concepts ("His negative energy resides in the sweater and will pass into me.")

In Nemeroff and Rozin's study, physical cleaning of the sweater slightly reduced its symbolic contagion effects, further suggesting that symbolic thinking partly involves concerns about germs or residues. Symbolic effects declined most strongly in response to purifying actions that negated the symbolic message, such as imagining a good person wearing the sweater that once clothed an evil person.

Physical cleaning reduced germ and residue effects most strongly, although some participants still resisted the idea of wearing a sweater that had touched dog feces, citing concerns over the lingering "essence" of the excrement.

Contagion thinking has its limits, Nemeroff acknowledges. For example, she says, many people might discard their initial resistance to wearing Hitler's hat if offered \$250.

Still, such beliefs run deep, often clashing with an individual's rational understanding, she maintains. One study participant starkly illustrated this paradox: He refused to wear his enemy's sweater for fear of contact with the foe's dirt, germs and sweat, yet he contended that cleaning or sterilizing the sweater would not make it worth wearing.

"I pointed out this discrepancy to him, and he burst out laughing when he realized what he'd said," Nemeroff remarks. "But he stood by his gut-level decision to avoid the sweater, even though he couldn't explain why he felt that way."

**G**ut-level feelings about contagion also help shape public reactions to people with AIDS, Nemeroff and Rozin say. At best, educational campaigns about the disease – such as the federal government's national mailing of an AIDS information pamphlet in 1989 – draw many people into a psychic tug-of-war between intellectual acceptance of AIDS patients and emotional rejection of those same individuals, the researchers contend.

Indeed, a study presented by Nemeroff at the 1990 annual meeting of the Western Psychological Association, held in Los

Angeles, uncovered a strong aversion to even indirect contact with AIDS victims among 399 college students with substantial factual knowledge about the transmission of the AIDS virus. When asked about their willingness to eat with silverware previously used by people with AIDS or by cold sufferers, the students selected far more extreme cleaning methods for the utensils handled by AIDS patients, such as bleaching the silverware or melting it down and refashioning it – even though the AIDS virus, unlike the common cold virus, does not find new hosts through such casual contact.

About one in three students with negative attitudes about silverware handled by AIDS victims reported that their feelings would not change even if a year had elapsed since the exposure. And almost half the entire sample described squeamishness about any physical contact with a person who has AIDS.

Nemeroff and Rozin suggest focusing educational campaigns on distinguishing between AIDS and its victims. For many people, the disease itself carries heavy moral baggage due to its linkage to homosexuality and intravenous drug abuse, the researchers say. People also need to understand how the head can disagree with the heart in situations involving disease and perceived health threats, they contend.

Although Nemeroff suspects that public awareness of contagion thinking about AIDS might diminish some of the disease's tragic social consequences, she maintains that the "magical law of contagion" may represent an evolutionary endowment of the human species. "We all may possess a partially preprogrammed disposition to engage in this type of thinking, with the blanks filled in by cultural influences," she says.

Groups of individuals with numerous genetic ties have dominated much of human evolution, she notes. In such closely knit groups, assumptions about positive contagion probably reinforced emotional bonding and trust between children and parents, while beliefs about negative contagion may have steered individuals away from those who could harm them or pass on a disease, Nemeroff suggests.

To support her evolutionary hypothesis, she points out that groups and societies lacking a scientific tradition have also dominated human evolution, yielding strongly held beliefs in various forms of magical contagion.

In a scientifically sophisticated society, the beliefs underlying an aversion to an enemy's sweater or to an AIDS victim's silverware catch most people by surprise. But Nemeroff and Rozin hope their findings will prove contagious to other behavioral investigators, infecting them with a zeal for exposing such beliefs. □