



**Antisocial cues.** People are much more likely to litter a graffiti-adorned alley than one in which the walls are clean.

## CRIMINOLOGY

# Study Shows How Degraded Surroundings Can Degrade Behavior

If you're walking by a wall covered with graffiti, are you also more likely to litter? The Broken Window Theory, crystallized in a 1982 article in *The Atlantic* by political scientist James Q. Wilson and criminologist George L. Kelling, posits that the environment has a significant effect on whether people engage in antisocial behavior. But there's been little empirical research on just how "broken windows" lead to social disorder and crime—until now.

In a series of cleverly designed experiments reported in a paper published online by *Science* this week ([www.sciencemag.org/cgi/content/abstract/1161405](http://www.sciencemag.org/cgi/content/abstract/1161405)), researchers at the University of Groningen in the Netherlands found that if people see one norm or rule being violated (such as graffiti or a vehicle parked illegally), they're more likely to violate others—such as littering, or even stealing.

In one setup, for example, the experimenters attached useless fliers to the handles of bicycles parked in an alley that had a sign on the wall forbidding graffiti. There was no trash can in the alley. The experimenters covertly watched how many people tossed the fliers on the pavement or put them on another bike rather than pocketing them for disposal. On another day, they set up the same condition in the same place, except with graffiti on the wall.

The results were striking: When there was no graffiti, a third of 77 cyclists tossed the flier away. But more than two-thirds littered after the graffiti was applied. In another experiment involving a €5 note left sticking out of a mailbox, 13% of subjects pocketed it when the mailbox was in a clean environment, compared with 23% when there was trash around.

Auditory cues can also set the scene for disorder. Four out of five cyclists littered their fliers when they could hear illegal firecrackers being set off, whereas barely half did so when it was quiet.

Kelling commends the experiments as "very tidy." He says that most earlier studies "dealt with correlation rather than causality" but that there is growing evidence for the broken window effect. A Harvard University study, reported earlier this year, found that scrupulous "situational prevention" in troubled neighborhoods in Lowell, Massachusetts—in particular, added policing and cleanup—was more effective than social services or law enforcement in maintaining order.

The study demonstrates that disorder in the environment has a generalized effect, says social psychologist Robert Cialdini of Arizona State University, Tempe. That finding suggests government agencies can expect a big payoff from what he calls "relatively minor efforts, let's say, to keep the streets clean."

Cialdini says his research has found that people's pro-social behavior can be calibrated to quite a fine degree and is shaped not only by what they see but also by what they believe to be true. For example, many hotel bathrooms have signs advising visitors that reusing their towels is good for the environment. On any given day, he says, about 38% of guests will reuse their towels. But the percentage rises to one-half if guests are told that a majority of the hotel's guests reuse their towels. "And if we say, 'The majority of guests in this room' reuse towels, we get even more [participation]," says Cialdini.

—CONSTANCE HOLDEN

CREDIT: ANTHONY COOPER/ECOSCENE/CORBIS