

RACHEL EHRENBERG } **CULTURE BEAKER**

Scientists' TV image isn't really as diabolical as they sometimes worry



High school chemistry teacher Walter White has terminal cancer. Concerned about leaving his family with mountains of medical bills, he began cooking up and selling primo crystal meth. He has also used his chemistry skills to dissolve dead bodies, burn through locks and make undetectable poison.

White isn't a real scientist — he's a fictional character on the television drama *Breaking Bad*. The show has won six Emmy awards and some consider it one of the greatest dramas of all time. But *Breaking Bad* is not without its detractors. In a commentary in the September *Nature Chemistry*, chemists Matthew Hartings and Declan Fahy lament the “chemophobia” plaguing society. A news release calling attention to the commentary cited *Breaking Bad* specifically, asserting that “the show plays into our preconceived notions that chemists are mad scientists and that chemicals are bad for you.”

Scientists have long lamented the portrayal of scientists in television and in popular culture. There are several stereotypes: There's the classic mad scientist, à la Dr. Frankenstein, pursuing ethically questionable research in a basement or tower. There's the socially awkward supergeek who forgoes family and personal relationships for the pursuit of Science. There's scientist-as-pawn, of industry or other big evil boss. But increasingly, notes Anthony Dudo, of the the University of Texas at Austin, there's also the scientist as hero, protagonist, saver-of-the-day.

“Historically, there seems to be a broad anecdotal impression within the scientific community that televised representations of scientists are negative,” says Dudo, who studies how science and technology are communicated to the public. But “televised representations of scientists, writ large, are not as negative as is often assumed.” Recent research by Dudo and colleagues at The University of Wisconsin–Madison and elsewhere suggests that those complaining about negative depictions of science should quit their whining and ahem, take a look at the data.

Dudo and his colleagues surveyed a week of prime time television each fall for seven years. The scientists focused on four variables: sex, race, occupation and whether the character was portrayed as good or bad. Of the 2,868 characters, only 1 percent were scientists (medical was a separate category with 8 percent).

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But these scientists were much more likely to be good (81 percent) than bad (3 percent), compared with 65 percent good for all characters. Scientists came in a close second to police, who are portrayed as good guys more than 85 percent of the time.

And like police, scientists seem to live dangerously. Science is portrayed as “one of the most dangerous and violent professions,” the researchers note in a paper to appear in *Communication Research*. While only 2.2 percent of medical types and 2.5 percent of lawyers kill someone on TV, 3.2 percent of scientists are murderers. They are also victims more often: 6.5 percent are killed, versus 1.3 percent of medical types. But Dudo’s work suggests that hazardous duty for TV scientists does not foment scientific illiteracy.

The assumption that popular culture sows the seeds of scientific discontent is enduring, notes Dudo. (Though not always with bad consequences: the National Academy of Sciences created the Science and Entertainment Exchange in 2008 in an effort to provide Hollywood with more accurate representations of science and scientists). This view is based largely on a study done in the 1980s. Back in that day, there were more bad TV scientists — for every villainous scientist, there were only five virtuous ones. And more important, people who watched a lot of TV were less likely to view science favorably. Dudo and his colleagues did not find this link between negative views of science and amount of viewing.

“It may be easy to find examples of outdated scientific stereotypes on TV — *The Big Bang Theory* comes to mind — but reflexive dismissiveness toward science on TV prevents us from seeing how it can be uniquely positioned to aid in science learning,” he says.

Maybe the shift in television’s presentation of science has more to do with scientists being represented as people like us rather than as a foreign species. In Dudo’s analysis, 16 percent of the TV scientists were not plain old good or bad, but mixed. While we often watch TV to escape to a world where things are more black and white, where good and evil are clearly defined, some of the best television shows make those lines awfully blurry. Consider *The Wire*, *Dexter* and *The Shield*. And Walter White on *Breaking Bad* is one of those mostly good people who does some illegal, dangerous and perhaps morally wrong things. He isn’t carefree about it like the classic evil scientist, but is a complicated person, contending with darkness. As Walter struggles, we struggle, we root for him, we empathize (all the while admiring his mad chemistry skills). Because even though science is often black and white in its answers, scientists aren’t. Not even ones played by actors on TV. ▣