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In the hit US television show *Watch Mr. Wizard*, actor Don Herbert (right) presented a weekly experiment to teach children about aspects of science.

SCIENCE COMMUNICATION

Science fresh from the box

Eugenie Scott relishes a history of science programming on US television that reveals an often intrusive emphasis on thrills and chills.

Between the start of the Second World War and the 1990s, US television evolved from a novel box with a handful of network channels in flickering black and white to a cultural necessity: all flat screens in brilliant colour with hundreds of broadcast, satellite and cable channel choices. In *Science on American Television*, historian Marcel Chotkowski LaFollette tracks and analyses how television treated science over those crucial 50 years — a follow-up to her 2008 analysis of science programmes on radio and early television, *Science on the Air* (University of Chicago Press).

Entertainment is the key to understanding the relationship between science and

Science on American Television: A History

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television. Towards the end of her well-researched, thought-provoking book, LaFollette explains, "The need to attract the largest possible audiences pushed television's version of science, whether intended as education or fiction, ever more toward sensationalization, politics, celebrities,

and representation and away from ... the thought and reasoning behind scientific conclusions and recommendations."

When the medium first emerged in the United States in the 1930s and 1940s, it followed a path already blazed by radio. The government licensed frequencies to commercial entities that paid a fee for broadcast rights, but also sold advertising and provided entertaining content in which to intersperse it. Under this commercial model, governmental efforts to increase the quality of broadcasts were sporadic and mostly anaemic. Attracting listeners and viewers became paramount. LaFollette notes that British radio and television, by contrast,

were supported and supervised by the government, which established standards for quality and diversity of programming.

Early on, says LaFollette, US networks experimented, mixing news and entertainment with science programmes and other cultural and educational fare. By modern standards, much of the science would be considered dry, wordy and stiff, as earnest scientists and science teachers declaimed while tapping blackboards with pointers.

Jazzier representations were on offer, however. The sitcom *Mister Peepers* (1952–55) starred Wally Cox as a science teacher peering through thick glasses — stereotypically smart but nerdy, and falling into absurd fixes. In the hit show *Watch Mr. Wizard* (1951–65), science-obsessed actor Don Herbert, with the help of a shifting coterie of child actors, tackled a weekly experiment, often of considerable sophistication.

A standout mixture of science, animation and live actors was the *Bell Laboratory Science Series*. It began in 1956 with the Frank Capra-directed *Our Mr. Sun*, a conversation among a scientist, a writer, the Sun and other characters, many of them animated. (Capra, who shot classics such as *It's a Wonderful Life* (1946), had a degree in chemical engineering from the California Institute of Technology.) The most popular of these films were seen by an estimated one-third of the television audience — about 24 million North Americans. But they were, first and foremost, entertainment.

In search of entertainment, the presentation of science on television grew increasingly artificial. Disney's *True-Life Adventures* nature films, recut for television, engaged young people with exotic species and regions. But the films anthropomorphized the animals and overshadowed the facts. One, *In Beaver Valley* (1950), shows beavers labouring with “stubborn resolve”, while “carefree” otters slide down snowy hills to zany music. Fictional medical doctors from Marcus Welby to Dr Kildare were heavy on charisma and light on science. LaFollette shows how even news reportage on the AIDS epidemic in the 1980s changed perspective, from scientific accuracy and searches for a cure to human interest, as homophobia and political debate took their toll.

Not all is bleak in LaFollette's history. The Public Broadcasting Service (PBS), a non-commercial network partly supported by the government and founded in 1969, is the natural home of art, opera, ballet, classical music — and science. Several series have given brilliant science communicators their say, such as Carl Sagan in the 1980 *Cosmos*, on the nature and history of the Universe and life, and Philip Morrison in the 1987 *The Ring of Truth*, on the process (and excitement) of scientific discovery. *Bill Nye the Science Guy* (1993–98) is a model of

Fictional forensics on the job in *CSI: Crime Scene Investigation*.

outreach to young people.

Meanwhile, imported programmes such as *The Nature of Things*, starring Canadian David Suzuki, and many from the BBC have been beacons in the gloom. Also strong are the *Nova* documentaries produced by Boston PBS station WGBH since 1974 and featuring compelling presenters such as astronomer Neil deGrasse Tyson or biologist Sean B. Carroll. Even the commercial series *CSI* models scientific reasoning as actors hypothesize, eliminate alternatives and finally settle on the most probable explanation.

When cable stations underwent their primary adaptive radiation in the 1980s and 1990s, science fans hoped that the ‘long tail’ of specialized programming would produce networks serving their interests. But even the National Geographic and Discovery channels have proved disappointing — presenting a mishmash of actual science and breathless forays into cryptozoology, crank medicine and paranormal phenomena. The network TLC's similar transition in focus from quality history, science, news, and technology to fluffier reality-based

programming is disheartening, given that it was set up by NASA and the US Department of Health, Education, and Welfare, and was once known as The Learning Channel.

If television is a vast wasteland, as the chair of the Federal Communications Commission famously said in 1961, it is especially inhospitable to science. LaFollette analyses attempts by the Smithsonian Institution, the American Association for the Advancement of Science and other scientific bodies to engage with television. These have often failed. The culture of professional scientists and the culture of an entertainment medium are destined to clash. However, we must find a way to improve the situation while working within commercial constraints. Americans spend about half of their leisure time in front of the descendants of those flickering boxes of the 1940s. Wasteland or not, television is simply too important to ignore. ■

Eugenie Scott is the executive director of the National Center for Science Education in Oakland, California, USA.
e-mail: scott@ncse.com