Seven Sins of Science Writers

By Peter Calamai

Nobel laureate Sir Harold Kroto, a British chemist who worked briefly at the National Research Council of Canada, not long ago voiced a long-standing complaint common among scientists about the media coverage of science.

"They just don't get it right," he said.

From experience now stretching back 35 years I'll bet that what Sir Harold really meant was: "The media don't report science the way we scientists think it should be reported." That's what most scientists mean when they complain that the media got something wrong. There are two troubling aspects to that focus:

- It misses the truly egregious sin of journalists and especially of specialist science writers, which is that we tend to be cheerleaders for science. Where in the mass media are the investigative articles about the making of a Canadian science policy by stealth or the distortion of national research priorities by giving the private sector an effective veto over co-funded projects?
- Perhaps worse, this focus and the specific examples usually trotted out reveal a shockingly unscientific approach to the issue. Most scientists make little effort to understand the basic operations of the mass media. They want the media to be different without understanding what forces have caused the media to be the way they are.

Consider these seven "sins" of journalists, some of those most commonly cited by scientists.

Sin No. 1. The media don't provide the scientific background knowledge so readers/viewers know how the latest development – the news – fits in.

True. Remedial education for people who didn't pay attention in Grade 6 is not our job. We have neither the space/time not the inclination.

Sin No. 2. Media reports are too episodic, concentrating only on the latest finding.

True but this merely reflects the "salami science" approach of journals and professional meetings. Funding pressures have encouraged scientists to report on the thinnest slice of new findings that a journal can be convinced to publish.

Sin No. 3. News reports speculate too much about potential implications of a finding, play up human interest angles and employ over-simplistic, over-dramatic headlines.

Largely true but irrelevant. Many scientists would like the media to practise eat-your-peas journalism, making readers or viewers consume the information that's supposedly

good for them, rather than the information that surveys show they prefer – such as the implications of scientific research and some portrait of the newsmaker. As for the headlines, that's like blaming the lab assistant for a memo sent by the department head.

Sin No. 4. The media give a platform to unqualified researchers and other unworthy commentators.

Untrue. The sweeping definition of unworthy from some scientists includes:

- anyone who hasn't published original research in this specific area.
- anyone labeled a gadfly or trouble-maker.
- anyone who is a social scientist, or a mere compiler/interpreter of the research of others.

Good science journalists know, however, that many scientists whose ideas were originally ignored, or even attacked, by the establishment and by funding agencies turned out to be right. Consider Alfred Wegener and continental drift, Mario Molina and ozone depletion by CFCs, Max Perutz and the isomorphous replacement method, Harold Dvorak and vascular endothelial growth factor. This list could be extended into every discipline.

One recent bête noire of the scientific establishment is Bjorn Lomborg, who has questioned the orthodoxy about climate change in his book *The Skeptical Environmentalist*. The chief knock against Lomborg is that he is a statistician, not a climatologist, and that he speaks to anti-Kyoto groups. In my view Lomborg is reasonably balanced on the climate science but suspect on the economics.

Sin. No. 5. The media miss the truly seminal turning points in science

Undoubtedly true. But so do most scientists outside that specialized field. On Jan. 29, 1988 *Science* published a paper about a breakthrough procedure called polymerase chain reaction that cleared the way for huge strides in genetics and genomics. I couldn't find a news story in any major Canadian newspaper.

But I'm also willing to bet that most scientists who subscribed to *Science* missed the importance of that paper as well. Some major scientific discoveries are simply over the heads of most science writers and also of many scientists.

Sin No. 6. Media sensationalize science coverage to sell newspapers or win viewers.

Not only untrue but demonstrates a willful ignorance of the facts. When more than 90 per cent of a paper's subscribers have paid home delivery, there isn't a huge block of potential buyers to court with such supposed sensationalism. A tiny bit of undergraduate level research would have revealed that what sells are events that are truly sensational – like the attack on the World Trade Center – not the style of coverage.

Sin. No. 7. Media coverage often doesn't reflect the intrinsic worth of the scientific achievement.

Perfectly true. That's because there is no absolute range of news value, no Beaufort Scale. News importance is always relative to what else is happening. A promising science development that might get front-page display on a slow news day won't get in the paper on the day after terrorist bombs go off in London.

To sum up. The media do get things factually wrong in science reporting and we do get taken in (remember spontaneous human combustion!). But reporting on science the way that many scientists want would be impossible in terms of space and much less attractive to most lay readers. If scientists would turn some of their energy to better understanding the real workings of the media, their criticisms would be more relevant and constructive. And reporters, at least, would pay attention.

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