

Exaggerated headline shock

When accurate and thoughtfully presented, reporting of good science in the popular press should be celebrated and encouraged by researchers. In return, tabloid headline writers should dial down their hyperbolic rhetoric and avoid sensationalism when reporting scientific discoveries.

Staying abreast of current events can be challenging given the vast array of media now available to those of us living in countries with a free press and without limits to sites that can be accessed through the Internet. There are simply too many potential sources from which to seek updates to take a global overview of all information available. Individuals, therefore, have to make choices on which media sources suit their personal preferences: this may be based on aligning with a particular position on a political spectrum; the degree of coverage of a preferred interest such as sport, travel, culture or celebrity gossip; or whether the source in question is online or offline, text, audio or video. In buying a newspaper, reading news online, watching or listening to a broadcast, or liking and following on social media, the choices we make reflect our own opinions and interests, and in making these decisions we group ourselves with like-minded people into various demographic segments. From this springs the tribalism and echo chambers that we can find ourselves part of in our interactions online and off. It also feeds the belief that only our group holds valid opinions backed by facts, even around points for which the evidence remains equivocal, while nuance and discussion are not needed. This also means that the media not only becomes polarized, but also competes for attention, often resorting to sensationalist headlines to target a different audience segment.

When it comes to reporting science, technology and health topics, the goal of any news outlet should be factual accuracy, giving appropriate balance to the weight of evidence supporting or opposing a particular idea or discovery, and avoiding unnecessary hyperbole. Unfortunately, these principles are not always adhered to, with pseudoscience and opinion that ignore a weight of evidence to the contrary often garnering much attention in media outlets targeted at audiences with little in the way of scientific training. Scientists, educators and science communicators are right to call out such examples as being incorrect and untrustworthy. Conversely, when the popular or tabloid press report quality science and are factually accurate, researchers should celebrate it and share the news as widely as

possible. In doing so, they will encourage such news organizations to publish more of the same, disseminating more reliable scientific reporting to sections of society that may otherwise be ignorant of this information.

A Letter in this issue of *Nature Microbiology* provides a useful illustration of how tabloid newspapers covering a piece of scientific research can get things right, as well wrong. Yang et al. describe the characterization of a newly identified filovirus from *Rousettus* bats in China. Phylogenetic analyses place the new virus, which the authors name Měnglà virus (MLAV), between Ebola virus (EBOV) and Marburg virus (MARV) — both of which are capable of causing severe haemorrhagic fever in humans. While this study received a reasonable amount of press coverage on its publication, one piece in particular caught the eye of the *Nature Microbiology* editorial team, coming as it did in *The Sun* (a British tabloid newspaper and website known for occasionally courting controversy; <https://go.nature.com/2Gp1Xna>). The text of the piece is, for the most-part, an accessible read that accurately describes some of the main points of the study — the discovery of MLAV in *Rousettus* bats from Yunnan Province in China; the relationship to EBOV and MARV; the use of NPC1 as a cell entry receptor; and the need for further work to assess the risk of MLAV spreading to humans — all of which is to be applauded. On the less positive side, is the tendency to exaggerate the potential threat from MLAV, which is described as “a DEADLY Ebola-related virus” when no experiments demonstrating virulence against bats, humans or any other host is included in the study. As is often the case with coverage of microbiology-related stories in the tabloid press, the greatest degree of hyperbole and scare-mongering is reserved for the headline, which begins with a strapline inciting plague panic followed by “Deadly bum-bleeding Ebola-style virus found in Chinese bats sparking fears it could spread to humans ‘with devastating consequences’”. The study does not include experiments demonstrating infection of, or disease in, any animals and does not suggest that it will spread to humans. It does note, however, that MLAV glycoprotein-typed pseudo-types

transduced cell lines from a range of species, but acknowledges that further study will be needed to assess the risk of interspecies transmission. The headline suggestion of haemorrhagic symptoms and devastating consequences on spreading to humans are a gross exaggeration of the data presented, and such fear-mongering can help lead to the entirely unjustified targeting of bats in communities that do not have enough information at hand to properly assess risk levels for potential zoonotic spill-over events.

Tabloid headlines designed to capture attention by stoking unwarranted fear undermine the, generally, more balanced text that follows them. Such headlines are often written by a copy editor or dedicated headline writer, not by the journalist credited for the piece, who will hopefully have taken the time to research and develop a better understanding of the story’s subject matter. This is a disservice both to the science being presented and to the readers, who should be credited with the chance to read a level-headed reporting of the facts in the absence of hysteria-inducing headlines. To limit such instances of hyperbole, the editorial teams from the journals publishing these research articles often work closely with authors and press teams to ensure that a paper’s title, abstract and discussion are accurate and do not make exaggerated claims, while still retaining broad appeal and ideally capturing the attention of a wider audience. The fact that such papers are eventually covered by mainstream press outlets demonstrates that a strategy based on accurate reporting does not limit dissemination of these stories. A similar collaborative strategy between headline writers working in concert with both the journalists writing the news pieces and the scientists doing the work could improve science communication to the larger public. There is a real appetite for learning more about the latest scientific advances among the general public and the popular press has an important role to play in disseminating this news, but this needs to be done in a responsible manner and in partnership with the research community. □

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