

Conversation  
Series



# New Technology & the Media

## *How non-scientists can spot the hype in media coverage on new technologies*

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In recent years, scientists have applied new discoveries in stunning ways. For example, the field of synthetic biology has developed biofuels and advances in neuroscience have allowed researchers to use deep brain stimulation to treat Parkinson's disease. But in the excitement over new technologies, the truth about advances can be stretched by exaggerated news headlines—the phenomenon of hype. Hype can lead to troublesome consequences for science and society. This conversation series seeks to help non-scientists identify hype in media coverage on new technologies, and become responsible consumers of science.

### Spotting hype

#### *Understand the “hype pipeline”:*

Hype can enter the scientific communication process from numerous sources at multiple points. From academic papers to news pieces to social media, a “hype pipeline” fuels exaggerated claims about scientific findings.

#### *Be wary of buzzwords and catchy phrases:*

Certain phrases are used to grab readers' attention, but they can create confusion and bias your opinion. For example, synthetic biology is occasionally critiqued as “playing God.”

#### *Identify exaggerated claims:*

Be on the lookout for claims that sound too good to be true, for example, suggesting new technologies will revolutionize society or will provide imminent “cures” for complicated diseases.

#### *Look for complete and balanced perspectives:*

When reading an article covering a new technology, look for the inclusion of cautious views or perspectives from scientists not involved in the project.

#### *Validate the headline:*

If a headline grabs your attention, read the article and compare the content with the heading. Does the heading reasonably match the content, or does it sound exaggerated?

### Responding to hype

#### *Unpack the buzzwords and phrases:*

Catchy buzzwords should not replace clear arguments. Does the phrase really describe the science behind the technology? Does the phrase have negative, positive or grand connotations?

#### *Check the facts:*

It can be difficult to evaluate news story or blog post without other information sources. Find the original studies referenced by the article and other reputable sources or studies on the topic.

#### *Develop your scientific literacy:*

Many scientific claims can be understood without an advanced degree. Read a range of available materials on the science underlying the technology. Increasing your scientific literacy will help you critically interpret media reports.

#### *Discuss with others:*

Science is a shared resource, affecting and belonging to all citizens. Deliberations not only strengthen community and citizenship; they also educate. Discuss the topic with others to hear and evaluate new perspectives.

### An example of hype: “Creating Life”

In May 2010, scientists at the J. Craig Venter Institute announced the creation of the world's first self-replicating synthetic (made by humans from chemical parts) genome in a bacterial cell. In the following days, some press accounts worldwide declared, “Scientists have created the world's first synthetic life form.”<sup>1</sup> In its deliberations, the Commission heard that while the announcement marked a significant technical achievement, it did not amount to the “creation of life.”<sup>2</sup> While this interpretation of the research appears to be widely held among the scientific community, public perceptions of synthetic biology might have been influenced by initial headlines of “creating life.” This language might excite public interest, but it should be followed by careful and robust deliberation informed by an accurate understanding of the current state of synthetic biology and the uncertainty regarding its potential benefits and risks.

<sup>1</sup>See, e.g., Sample, I. (2010). Craig Venter Creates Synthetic life form. Guardian. 20 May 2010. Available at: <http://www.guardian.co.uk/science/2010/may/20/craig-venter-synthetic-life-form>.

<sup>2</sup>Brenner, S., Senior Distinguished fellow of the Crick-Jacobs Center, The Salk Institute. (2010). Reflections for the future. Presentation to the Presidential Commission for the Study of Bioethical Issues, September 14, 2010. Available at: <http://www.bioethics.gov/transcripts/synthetic-biology/091410/reflections-for-the-future.html>.