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"Spread the Word: Why Science Journalism Is Important"

So it all started on one hot summer day, during a Living Skills class. We were learning about GMOs, which stands for Genetically Modified Organisms. A debate arose in the class, and the general consensus was that GMOs are deleterious to our health. We learned about the Seralini study, published in 2012, which reported that when rats were fed genetically modified corn, they started developing tumors.

I decided that day that I really didn't want to get giant tumors. And even if I was going to get them, I didn't want to get them from eating something tastier, like chocolate, not corn. So I went home and did some research. To my surprise, I discovered that after Seralini's paper was published, the methods and conclusions were met with harsh criticism from other scientists. Prominent scientists in the field questioned the methods used in the paper and the statistical strength of its arguments. Nonetheless, the paper caught national attention and ignited a national--and then global--media frenzy. And it wasn't just talk; these chain of events led to real actions. Kenya, an African pioneer in Genetically Modified foods, issued an indefinite ban for all Genetically Modified Crops. Over the last few years, subsequent research by scientists across the world showed that feeding genetically modified soybeans to rats had no adverse effects. A recent meta study also surveyed 147 studies on Genetically Modified crops, and found that Genetically Modified crops actually cause benefits in terms of higher yields and cost savings in agricultural production

Now, that's not to say that the use of GMOs has no adverse secondary effects on our society. However, it does warn us that science is often a debate, even among the experts. Even the smartest, most experienced scientists may often disagree with each other. When we too quickly get excited about flashy headlines, and move to action before checking our sources, we can often make irreversible damages.

I want to give you another example.
http://online.wsj.com/articles/paul-a-offit-the-anti-vaccination-epidemic-1411598408

In 1998, a doctor named Andrew Wakefield published an article claiming a link between vaccines and autism. He looked at only 12 children, 9 of whom were autistic, and found that they had intestinal inflammation. He blamed this inflammation on an MMR vaccine, and concluded that vaccines caused autism. After he announced his findings, he caused a media frenzy. The vaccination rates then dropped by 80%, and between 1998 and 2008, the cases of measles in England and Wales rose from 53 to 1370.
In 2004, an investigation found that the original 1998 paper was fraudulent, and that Wakefield was paid by lawyers fighting a case against vaccines. Many scientists have tried to replicate Wakefield's findings, but couldn't. Therefore, Wakefield's paper was quickly retracted. In February of 2014, the US Court of Federal Claims ruled that vaccines do not

cause autism. However, the damage was already done. Even to this day, there are still lots of people who believe that vaccine causes autism.

But Seralini and Wakefield aren't the only ones to blame. Scientific journalists often take complicated conclusions from statistical tests and spin them into dramatic headlines to capture your attention. This comic humorously shows how science journalists often exaggerate insignificant statistical findings out of proportion.

Every morning, we wake up. We read the paper, check Google News, Twitter, Facebook. We get our news from friends, from the media, from the internet, and we accept what we read as fact. It was, after all, published by a scientist with a PhD! However, what we don't realize is that there is a process by which science becomes news, and news become rumors. It looks something like this. First, an article is published, in which a scientist reports her observations. She may make some claims about what she saw, and hypothesize on what it might mean. She publishes these hypotheses, and before you know it, a journalist picks it up and writes a sensationalized catchy headline for the article after a quick interview with the scientist, without ever actually reading the original research paper. A second journalist reads the publication from the first journalist, and he then writes an article based on what he read. This gets spread around the internet, picked up by local news, and shared by friends through social media. And SO, in this game of telephone, facts get misconstrued, quotes taken out of context, and the conclusions are often dramatized.

If we want to read about cutting edge science, we must do so with a grain of salt, think critically, track down the original study, hear both sides' arguments, and remember that scientific findings are not necessarily facts. It is our responsibility, as readers, as citizens, to do our research and reconsider the credibility of each article and each paper before we share our readings onto the social media. It is the responsibility of journalists to appreciate the power that they hold in controlling the media and public opinion, which often may lead to irreversible consequences if spread inappropriately.

Thank you.