

SCIENCE

According to the Words, the News Is Actually Good

Findings

By JOHN TIERNEY FEB. 23, 2015

We journalists pride ourselves on a willingness to bring you bad news. The more death and destruction, the more words and pictures. If it bleeds, it leads.

But it turns out that at heart we are Pollyannas, just like almost everyone else. We can't help accentuating the positive, according to researchers who have analyzed nearly two million articles in The New York Times as well as millions of books and more than 100 billion tweets worldwide.

A team led by applied mathematicians at the University of Vermont and the Mitre Corporation used a computerized algorithm called the hedonometer to gauge the emotional content of words in news articles, books, websites, music lyrics, television shows, movies and social media posts. They analyzed sources in English and nine other languages, including Spanish, German, Russian, Arabic, Chinese, Korean and Indonesian.

The researchers found that no matter what the medium or language, people

tended to use more positive words than negative words. Despite all the grim news stories and all the social media snark, journalists and the rest of the world's chatterers are more likely to use upbeat words like "healthy" and "friend" than downers like "suffering" or "idiot."

The study, published in *Proceedings of the National Academy of Sciences*, is by far the largest of its kind and offers a sweeping confirmation of the Pollyanna hypothesis, a phrase coined by social scientists in the 1960s based on small-scale studies of language usage. They took the name from the 1913 novel about a girl who plays the "glad game," always trying to see the best in every situation.

The notion of a universal positivity bias in the way we communicate intrigues linguists and psychologists because it's a counterpoint to our more obvious tendency to accentuate the negative. There's an evolutionary explanation for our general negativity bias: Early humans oblivious to potential threats didn't live long enough to pass on genes. It's not surprising that bad events still have a stronger impact on us than good ones, and that we recognize hostile faces more quickly than friendly faces.

We are also more careful in identifying bad states of mind. In English and other languages, there are more words for negative emotions than for positive ones. When we're in a good mood, we tend to say simply that we're happy, but we carefully distinguish sadness from anger, fear, frustration and other unpleasant feelings.

So if we pay so much attention to negative events and feelings, why do we keep sounding like Pollyannas? There are various theories. One is that a lot more good things happen to us than bad things, so we naturally end up saying more positive things.

Murders and mayhem are front-page news, but there are plenty of happy events in the rest of the report. When the researchers applied their hedonometer to different sections of *The Times*, they found the highest score in the Society section, because of so many positive words like "bride" and "graduated."

The Society section scored 6.98 on the hedonometer's 9.0-point scale, on which 5.0 represents neutral. The overall score for The Times was 6.0, with the Science section coming in at 5.71 because of words like "disease" and "cancer." The lowest score was the International news section's 5.21.

Similarly, the researchers found that worldwide traffic on Twitter remained consistently upbeat, averaging about 6.0 on the hedonometer scale. It had its rhythms, tending to be higher in the morning and to decline during the day, and it varied according to events. It rose on holidays — the happiest day of the year is Christmas — and dipped when there was bad news. Still, the trend remained positive on days even when there were stunningly awful events like the terrorist attack on the French newspaper Charlie Hebdo.

This relentless cheeriness even on bad-news days suggests to some researchers that the positivity bias isn't merely a consequence of more good things to talk about. It can also help us cope with the bad stuff.

Researchers studying memory have found another example of the Pollyanna principle: People tend to recall events as more positive than they were really were, apparently to diminish the lingering impact of painful experiences. Just as we see the past through rose-colored glasses, we cope with today's problems by finding something positive to say.

When terrorists commit an atrocity, we quickly respond with prayers and donations for the victims. Journalists covering the devastation of an earthquake look for stories of heroic rescue workers and of victims found alive in the rubble. Even when a bad event is being described, there can be an effort to counteract its impact by using positive language.

"While there are terrible stories in the news and awful threads on Twitter, we tend not to go on about them," said Peter Sheridan Dodds, who led the hedonometer project along with Chris Danforth, a Vermont colleague, and Brian Tivnan of Mitre. "Language is our great social technology, and we use it to help us get through hard times."

Previous studies with social media, including one involving The Times's most-emailed list, have shown that while people are quick to read bad news, they prefer to share uplifting news with their friends. That points to what may be the chief explanation for our use of positive language: We care what others think about us.

Sounding upbeat can make you seem more appealing, whether you're trying to attract a mate, find a friend, obtain a favor, or simply keep your audience interested. You can get instant attention with bad news and negative talk, but it is not a smart strategy for long-term popularity.

Novelists love to draw in readers by putting characters in jeopardy, but they also make sure to keep things from getting too gloomy, as the researchers found by applying the hedonometer to more than 10,000 novels.

It showed that language dips into the negative zone in some parts of novels, for example the imprisonment of "The Count of Monte Cristo" and the death of Dumbledore in "Harry Potter and the Half-Blood Prince." But in those novels and others, it then rebounds, especially toward the conclusion, so that the overall tone is positive.

Even more remarkably, the hedonometer showed that characters on "Seinfeld" managed to temper their negativity. They all scored below 6.0 — no surprise, given their endless kvetching — but they somehow used more positive words than negative ones.

As hapless as they were in their quests for love, they at least seemed to recognize a rule of the mating game: Pollyanna's romantic prospects are better than Debbie Downer's.

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