

'You're gonna need a bigger quote!': What makes movie lines memorable

May 8 2012, By Bill Steele

(Medical Xpress) -- Whether it's a line from a movie, an advertising slogan or a politician's catchphrase, some statements take hold in people's minds better than others. By applying computer analysis to a database of movie scripts, Cornell researchers have found some clues to what makes a line memorable.

The study suggests that memorable lines use familiar [sentence structure](#) but incorporate distinctive words or phrases, and they make general statements that could apply elsewhere. The latter may explain why lines like "You're gonna need a bigger boat" or "These aren't the droids you're looking for" (accompanied by a hand gesture) have become standing jokes. You can use them in a different context and apply the line to your own situation.

While the analysis was based on movie quotes, it could have applications in marketing, politics, entertainment and social media, the researchers said.

"Using movie scripts allowed us to study just the language, without other factors. We needed a way of asking a question just about the language, and the [movies](#) make a very nice [dataset](#)," explained graduate student Cristian Danescu-Niculescu-Mizil, first author of a paper to be presented at the 50th Annual Meeting of the Association for Computational Linguistics July 8-14 in Jeju, South Korea.

The study grows out of ongoing work on how ideas travel across

networks. "We've been looking at things like who talks to whom," said Jon Kleinberg, the Tisch University Professor of Computer Science, "but we hadn't explored how the language in which an idea was presented might have an effect."

To address that, he collaborated with Lillian Lee, professor of computer science, who specializes in [computer processing](#) of natural [human language](#), along with Danescu-Niculescu-Mizil and Justin Cheng '12 .

They obtained scripts from some 1,000 movies and a database of memorable quotes from those movies from the Internet Movie Database. Each quote was paired with another from the movie's script, spoken by the same character in the same scene and about the same length, to eliminate every factor except the language itself. Obi-Wan Kenobi, for example, also said, "You don't need to see his identification," but you don't hear that a lot.

They asked a group of people who had not seen the movies to choose which quote in the pairs was most memorable. Two rules of thumb emerged to identify the memorable choice: distinctiveness and generality.

Then the researchers programmed a computer with linguistic rules reflecting these concepts. A line will be less general if it contains third-person pronouns and definite articles (which refer to people, objects or events in the scene) and uses past tense (usually referring to something that happened previously in the story). Distinctive language can be identified by comparison with a database of news stories. The computer was able to choose the memorable quote an average of 64 percent of the time.

Later analysis also found subtle differences in sound and word choice: Memorable quotes use more sounds made in the front of the mouth,

words with more syllables and fewer coordinating conjunctions.

In a further test, the researchers found that the same rules applied to popular advertising slogans.

Although teaching a computer how to write memorable dialogue is probably a long way off, applications might be developed to monitor the work of human writers and evaluate it in progress, Kleinberg suggested.

The researchers have set up a website where you can test your skill at identifying memorable movie quotes, and perhaps contribute some data to the research, at www.cs.cornell.edu/~cristian/memorability.html .

Provided by Cornell University

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