

MIND | Benedict Carey

# Does a Nation's Mood Lurk in Its Songs and Blogs?

Neither music historians nor hardcore metal fans will gasp to learn that the band Staind, with songs like "Painful" and "Mudshovel," tends to go far more negative in its lyrics than did the heavyweight of soul, Luther Vandross, whose many hits included "The Closer I Get to You." Or that Slayer ("Raining Blood") paints darker word pictures than Faith Evans ("I'll Be Missing You").

Yet who knew that Slayer was about 30 percent more negative than Mr. Vandross — and that such calculations might say something about the mood of the country?

In a new paper, a pair of statisticians at the University of Vermont argue that linguistic analysis — not just of song lyrics but of blogs and speeches — could add a new and valuable dimension to a growing area of mass psychology: the determination of national well-being.

"We argue that you can use this data as a kind of remote sensor of well-being," said Peter Sheridan Dodds, a co-author of the new paper, with Christopher M. Danforth; both are in the department of mathematics and statistics.

"It's information people are volunteering; they're not being surveyed in the usual way," Dr. Dodds went on. "You mess with people when you ask them questions about happiness. You're not sure if they're trying to make you happy, or have no idea whether they're happy. It's reactive."

Psychologists have been trying to get a handle on the elusive nature of happiness in individuals for decades, usually by asking: How happy are you: Very? Somewhat? Not so often? The answers reveal that people are fairly stable in their self-reports, even after suffering severe injuries or winning the lottery.

In recent years policymakers and governments have begun to conduct similar surveys on a mass level, as a way to get a reading on an entire population's mood. In Europe, for instance, researchers have conducted such studies for years, as a guide to how countries respond to economic and policy trends. (Denmark has consistently placed first, for reasons some Danes attribute to inborn modest expectations.)

The methods vary from one survey to the next. In some, people reflect on the previous day's activities and rate their mood during each one. In others, they answer questionnaires or record their moods on a hand-held device periodically through the day. Each method has its flaws, researchers agree, and the swirling life of cyberspace and cellphones is



WESLEY BEDROSIAN

now tempting engineers into a field that has been dominated by psychologists.

"The new approach that these researchers are taking is part of movement that is really exciting, a cross-pollination of computer science, engineering and psychology," said James W. Pennebaker, a psychologist at the University of Texas. "And it's going to change the social sciences; that to me is very clear."

Researchers who specialize in analyzing mass measures of well-being are skeptical about what a content analysis of pop culture can really say, at least as a stand-alone measure.

"The approach is interesting, but I don't see any evidence that the method produces a valid population-based measure of well-being," Uli Schimmack, a psychologist at the University of Toronto, wrote in an e-mail message.

Dr. Schimmack points to daily Gallup surveys, at well-beingindex.com, as a far more rigorous approach.

Still, the University of Vermont study presents what could be a complementary measure, and it provides a few decent cocktail-party nuggets along the way. Dr. Dodds and Dr. Danforth downloaded the lyrics to 232,574 songs by 20,025 artists released between 1960 and

2007, from the Web site hotlyrics.net. From another site, wefeelfine.org, they pulled more than nine million sentences that used some form of the verb feel — as in "I feel relieved" — from 2.3 million blogs from 2005 to 2009. They also analyzed State of the Union speeches going back to George Washington's. They then rated the psychological charge, or "valence," of a significant subset of the words on a 10-point scale: from triumphant (8.82) and love (8.72) down to disgusted (2.45) and suicide (1.25).

Some of the findings were expected. Sept. 11, 2001, was rock bottom, for instance. Others were less so: the day that Michael Jackson died also lowered people's mood significantly. The high-

## Looking for clues to well-being in what we sing and say.

water mark was the day President Obama was elected, when the word "proud" was predominant.

Christmas and Valentine's Day regularly popped as positive times, although words like "guilty" were associated with Christmas and "waste" and "lonely" with Valentine's Day.

The researchers also analyzed the emotional content of blogs by the age of the blogger, and they found a curious pattern. Teenagers, true to form, rated the lowest, with an abundance of "sick," "hate" and "stupid."

With advancing age the tone gradually softened, rising to a high plateau in apparent emotional well-being through the 50s and 60s, then dropping after age 70 — when the word "sick" began to reappear.

"Now, these are bloggers, and they certainly are not representative of everyone," Dr. Dodds said. "But the pattern is very pronounced."

As for popular music, the University of Vermont researchers found that within each genre, the emotional charge of lyrics remained stable between 1960 and 2007. But the overall trend was downward, as metal came of age in the 1970s, punk in the 1980s, and later hip-hop, each exploring darker themes more explicitly than their predecessors in the 1960s.

The low point, lyric-wise, was around 2003. Maybe coincidence, but that was the year Darkthrone released its album "Hate Them."