

Read my lips... and my voice, and my face

Inspirational electioneering, straight talk and devious spin – it's all getting easier to detect and dissect

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BLINK and you would have missed it. The expression of disgust on former US president Bill Clinton's face during his speech to the Democratic National Convention as he says "Obama" lasts for just a fraction of a second. But to Paul Ekman it was glaringly obvious.

"Given that he probably feels jilted that his wife Hillary didn't get the nomination, I would have to say that the entire speech was actually given very gracefully," says Ekman, who has studied people's facial expressions and how they relate to what they are thinking for over 40 years.

It seems that Clinton's micro-expression gave away more about his true feelings than he intended. Politicians do not usually give themselves away so tellingly, and many of us would like to know whether they mean what they are saying. So how are we to know when they are lying?

Technology is here to help. Software programs that analyse a person's speech, voice or facial expressions are building upon the work of researchers like Ekman to help us discover when the truth is being stretched, and even by how much. "The important thing to recognise is that politicians aren't typically good at out-and-out lies, but they are very adept at dancing

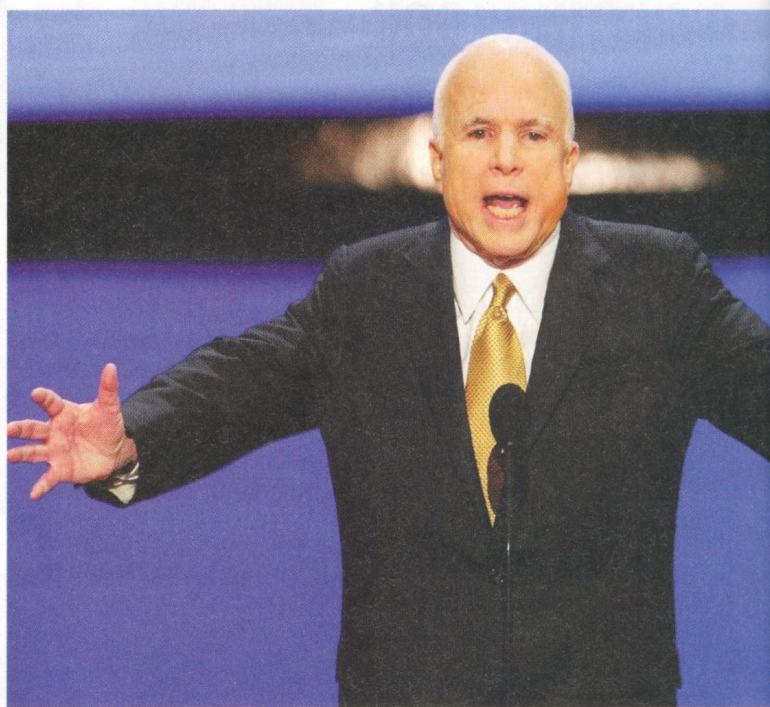
around the truth," says David Skillicorn, a mathematics and computer science researcher at Queen's University in Kingston, Ontario, Canada. "The 2008 election has so far given us plenty of chances to see them in action."

Skillicorn has been watching out for verbal "spin". He has developed an algorithm that evaluates word usage within the text of a conversation or speech to determine when a person "presents themselves or their content in a way that does not necessarily reflect what they know to be true".

The algorithm counts usage of first person nouns – "I" tends to indicate less spin than "we", for example. It also searches out phrases that offer qualifications or clarifications of more general statements, since speeches that

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contain few such amendments tend to be high on spin. Finally, increased rates of action verbs such as "go" and "going", and negatively charged words, such as "hate" and "enemy", also indicate greater levels of spin. Skillicorn had his software tackle a database of 150 speeches from politicians involved in the 2008 US election race (see diagram, right).



When he analysed the speeches of John McCain, Barack Obama and Hillary Clinton, he found that even though the speeches were rehearsed, written by professionals and delivered by trained speakers, there were discernable differences between them. "It's clear that the speeches are still highly individualised," says Skillicorn. "This makes sense as the speeches have to, in some manner, reflect the speaker's own voice and opinions. Otherwise, they wouldn't be able to deliver them convincingly."

Additionally, he says, little details count: pronouns such as "we" and "I" are often substituted

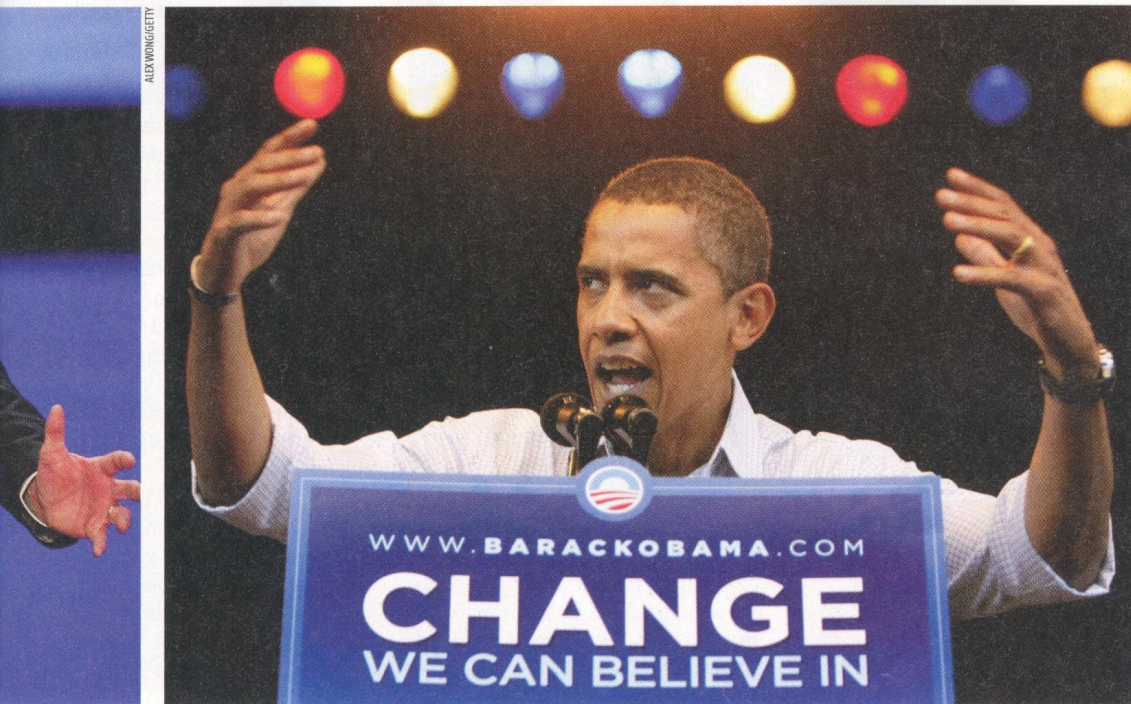
speeches accepting their party's nomination for president, Obama's speech scored a spin value of 6.7 – where 0 is the average level of spin within all the political speeches analysed, and positive values represent higher spin. In contrast, McCain's speech scored -7.58, while Hillary Clinton's speech at the Democratic National Convention scored 0.15. Skillicorn also found that Sarah Palin's speeches contain slightly more spin than average.

So the analysis appears to back up McCain's claim that he is a "straight talker". However, for the purposes of political speech-making this may not be an entirely good thing for him. "Obama uses spin in his speeches very well," says Skillicorn. For example, Obama's spin level skyrockets when facing problems in the press, such as when Jeremiah Wright, the reverend of his former church, made controversial comments to the press.

"When you see these crises come along, the spin goes up," Skillicorn says. "Obama is very good at using stirring rhetoric to deal with the issues. And it seems to work if you look at what happens in the polls afterwards."

subconsciously, no matter what is written in the script.

Each of the candidates had made speeches containing very high and very low levels of spin, according to Skillicorn's program, depending on the occasion. In general though, Obama's speeches contain considerably higher spin than either McCain or Clinton. For example, for their



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Plain speaking with a flat delivery or soaring spin to energise the masses?

McCain does not seem as adept at using spin to his advantage, and his “straight talk” can make his speeches fall flat from a motivational point of view, according to Branka Zei Pollermann, founder of the Vox Institute in Geneva, Switzerland, who has analysed the candidates’ voices for communication consultants Clearwater Advisors, based in London.

“The voice analysis profile for McCain looks very much like someone who is clinically depressed,” says Pollermann, a psychologist who uses voice analysis software in her work with patients. Previous research on mirror neurons has shown that listening to depressed voices can make others feel depressed themselves, she says.

Pollermann uses auditory analysis software to map seven parameters of a person’s speech, including pitch modulation, volume and fluency, to create a voice profile. She then compares that profile with the speaker’s facial expressions, using as a guide a set of facial expressions

mapped out by Ekman, called the Facial Action Coding System, to develop an overall picture of how they express themselves.

Her analysis shows that McCain’s voice changes little in pitch as he speaks, and so conveys very little emotion or impact. Whether he is addressing positive prospects or discussing sad facts, his voice always sounds the same.

Additionally, McCain’s voice and facial movements often do not match up, says Pollermann, and he often smiles in a manner that commonly conveys sarcasm when addressing controversial statements. “That might lead to what I would call a lack of credibility.”

People are unlikely to trust statements made in a flat tone, particularly when they do not match the person’s facial expressions. According to Pollermann’s analysis, it may not make any difference that McCain does not pepper his speeches with spin, if the way he talks does not strike people as believable.

Obama, by comparison, speaks with greater pitch modulation, and his facial expressions correlate very well with what he is saying. His one facial foible may

be a tendency to furrow his brow, she says, conveying constant concern. This is similar to the UK prime minister Gordon Brown, whose expressions tend to be limited to sadness, anger and disgust, according to the Vox Institute’s analysis. But Obama’s fluency, high speech rate and good use of pitch make him a dynamic speaker.

So what does all of this actually say about the honesty of politicians? “Our society treats political candidates like used-car salesmen,” Ekman says. “The fact is that the candidates almost certainly believe what they are saying, even if they are giving some facts a much lighter treatment than others. In that way, actually catching someone in a blatant lie is relatively rare.”

Indeed, Bill Clinton’s fleeting facial slip was the only clear example that Ekman could recount of a politician saying something that they did not mean during both the Republican and Democratic national conventions.

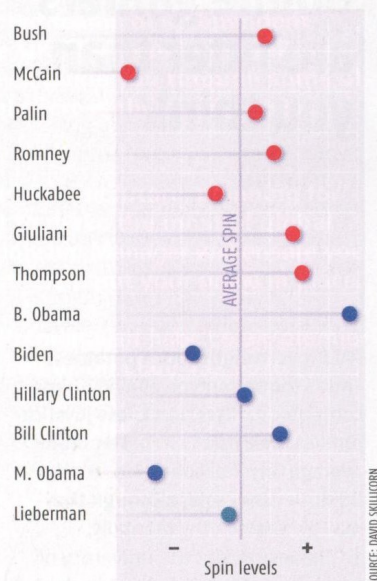
However, facial recognition technology may one day be able to pick up on telltale signs that humans would have trouble spotting. For example, Yoshimasa

Ohmoto and colleagues at the University of Tokyo in Japan are developing a facial recognition system for robots and artificial intelligence agents that analyses basic eye, nose and mouth movements, such as a slightly averted gaze when talking to someone, to detect if a person is telling a lie. In trials in which people played the bluffing game Indian poker, the system has already proved to be as reliable as humans trained to detect lies (*AI & Society*, vol 23, p 187).

“Technology is quickly catching up with psychology,” says Pawan Sinha, who leads a team at the Massachusetts Institute of Technology that specialises in computerised facial-recognition technology. “It’s not quite there yet, because the visualisation systems just can’t work fast enough to replace the human eye and mind. But computer processing is getting faster and our recognition systems are getting better,” he says. “Someday soon, computers may be able read us better than any psychologist. I imagine that will be a pretty scary day for politicians.” ●

COMPARING THE SPIN

Obama was the king of spin among the speakers at the 2008 Republican and Democratic national conventions, while John McCain gave it to them straight



SOURCE: DAVID SKILLICORN