President Trump’s Twitter page is nauseating, chock-full of trollish behavior and mind-numbing stupidity, whether he’s mocking his enemies or feuding with CNN about his use of the made-up word “Liddle’.” Even some of his own base is queasy about Trump’s social media habit: One Politico/Morning Consult poll from May found that 34 percent of Republicans say his Twitter use is bad.

But Trump’s tweets could actually end up being a scientific treasure. Despite the insults and the copious grammar and spelling errors, the president’s feed could give us a deeper understanding of Trump than we have of any other president in history.

A study published this week in the scientific journal PLOS One provides a linguistic analysis of the full corpus of Trump’s Twitter activity from May 2009 to February 2018 — including almost 22,000 posts that total to more than 362,000 words. The reams of excessive exclamation points and all-caps rants revealed that Trump has shifted his method of communication depending on his intended audience over the years.
The paper shows that his tweets became substantially more informal when he was attempting to appeal to his base during the Republican primaries and general election. His conversational tone dropped suddenly once he was inaugurated, but it has slowly ticked upward while in office. Meanwhile, the president has become more self-promotional, maintaining a campaigning style of voice even after his election. Though it’s hard to believe this is possible, he has also become markedly less willing to engage with other viewpoints, focusing instead on attacking opponents and promoting his campaign. In fact, the authors of the study found that Trump’s account experienced a sharp decline in engagement right after the “Access Hollywood” tape was released, shifting instead to attacking the Clintons.

It’s likely problematic to use this data to make broad claims about Trump as a person. After all, his Twitter presence is a performance. Plus, the president is certainly not the only author of the account (in fact, some data analysts have been attempting to determine when Trump writes his own tweets).

But Trump’s Twitter feed is an unusually direct and unpolished line of communication between a sitting president and the public, and analyzing it sometimes reveals surprising patterns. Researchers who conducted a sentiment analysis of both Trump and Hillary Clinton tweets leading up to the 2016 election found, counterintuitively, that Trump’s account tended to share a more optimistic message. Another analysis from Vox noted that Trump has been far more likely to tweet about the media than his own policies. And earlier this month, data crunchers at JPMorgan Chase created an index to measure how much impact each of Trump’s tweets have on stock markets, finding that they are having a growing impact.
Perhaps in the future, researchers might be able to parse out data from the social media site to measure just how siloed Trump’s following has been on the Twitter network. Historians might also be able to use the account as a way to study Trump’s attempts to sway the public during specific moments in his presidency, potentially with a measurable response from Twitter users. The possibilities go on and on.

None of this should diminish the negative effects of Trump’s tweets. His account has promoted misinformation and has also shared racist content, including a video just ahead of the 2018 midterm elections that painted immigrants as violent criminals invading our country. But as ugly as those tweets are, they are still valuable data.

Social media’s greatest promise has always been the record we leave behind from which future generations can learn. So even if you believe Trump’s “Twitter presidency” has debased our political system and further deteriorated online networks, look on the bright side: It’s a great research opportunity.
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