

PMwith Mark Colvin

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Software solves author puzzle

Ashley Hall reported this story on [Thursday, February 21, 2013](#) 18:29:00

TIM PALMER: "Academic debates are so vicious precisely because the stakes are so small." That's the famous truism attributed to the New York political scientist Wallace Sayre, and among the most furious in academia are the debates about who actually wrote important historical literature and documents. Even that quote itself has been attributed to some half a dozen other people, among them Henry Kissinger.

Well, arguments about who wrote what could soon be a thing of the past. Researchers from the University of Adelaide have developed software that analyses an author's style and can then find that author's touch, or the lack of it, in any text.

Immediately that's thrown new light on the hotly disputed origins of two famous texts, Paul's Letter to the Hebrews in the New Testament and the US Federalist Papers which preceded the US Constitution.

Ashley Hall reports.

ASHLEY HALL: It sounds like the simplest of technologies, at least the way the University of Adelaide's professor Derek Abbott explains it.

DEREK ABBOTT: What it does is it counts up how frequent each word is in each text, and it uses that data in a form of a cluster analysis to see how similar it is to another text.

ASHLEY HALL: Of course, it's not quite as simple as that.

DEREK ABBOTT: First of all, strip all the text of all the punctuation and accents and make it all lower case, and we believe that kind of simplifies the problem.

ASHLEY HALL: In testing their automatic authorship detection system, the team correctly identified the writer of a work more than 90 per cent of the time.

DEREK ABBOTT: We got known works of, say, Charles Dickens, Conan Doyle, and all those famous authors and ran all their books through our software - because all these books now are electronically available - and we were getting those types of accuracies for those texts. So we're very excited about what we've produced.

ASHLEY HALL: Then the researchers from the School of Electrical and Electronic Engineering turned their minds to the origin of two hotly debated works.

The Federalist Papers are a collection of 85 influential political essays written in the late 1700s, as the United States' founding fathers developed that country's constitution. It's clear who wrote 72 of the essays, but there's confusion about who penned the final 13.

Was it Alexander Hamilton, James Madison, or John Jay?

DEREK ABBOTT: We found that one particular essay out of the 13 disputed essays - number 62, if anyone was interested - happened, is very strongly matching to the author called Madison and so we can say with a very strong likelihood that is Madison.

But as for the other 12 essays, what is interesting, although we got matches, they had a very weak, what we call a very weak likelihood rating. So they were matches but in a very weak sense.

ASHLEY HALL: Professor Abbott says that's probably because the authors collaborated on the other 12.

The other debate the researchers were hoping to settle also dates back hundreds of years. Who wrote the Letter to the Hebrews in the New Testament?

DEREK ABBOTT: Tradition tells us that Saint Paul wrote the Letter to the Hebrews, and since the third century, there have been scholars that have disputed that.

ASHLEY HALL: So the researchers ran the original Greek text through their software.

DEREK ABBOTT: We tested it against other works of Paul. We tested it against other authors in the New Testament. We threw in another letter that didn't quite ever make it into the Bible, one called the Epistle of Barnabas. We did a kind of a blind test where we compared this Letter to the Hebrews with all these texts in their original Greek, and we found that Paul was the closest out of all of them.

ASHLEY HALL: But it was only a weak match.

Derek Abbott believes that may be because Paul wrote his letter originally in Aramaic, so the software's also been influenced by the word choices of Luke, who translated it into Greek.

(to Derek Abbott) What are the broader applications of this software? Could you use it, for example, to find people who are plagiarising in university essays and exams?

DEREK ABBOTT: Yes. In fact there is commercial software that already does that, but we haven't looked at that with our software yet.

ASHLEY HALL: Professor Abbott says the software could also be further developed to filter emails and improve search engine capabilities.

But in the short term, he's considering reopening that other literary can of worms - who wrote The Complete Works of William Shakespeare?

TIM PALMER: Ashley Hall reporting. And you'll find the study published today in the journal PLOS One.

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