Artificial intelligence and clay tablets: Not yet a perfect match

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Credit: Trustees of the British Museum

: More and more articles are popping up about the possibilities offered by artificial intelligence for researching documents in the oldest scripts, from translating ancient texts, to filling in missing parts of clay tablets. But are we better off leaving the deciphering of ancient texts to computers from now on?

Associate Professor Alwin Kloekhorst, a specialist in Hittite, is not convinced. "This summer it was in the news that AI could scan clay tablets and then translate them immediately. I can't actually imagine that this is true," he says. "Hittite is written in cuneiform, and when you see

texts in Hittite, they seem to be written in very nice straight characters, but in practice they are 3D engravings. That makes it very difficult to scan them and have them recognized by a computer."

Moreover, the 30,000 fragments of Hittite texts that have survived are actually too few to properly train a computer to translate Hittite, Kloekhorst thinks. "If you type out all the fragments of clay tablets, you are left with something like three thousand A4s. It's difficult to get a system to work with those, especially because important parts of the fragments are sometimes missing. You also see that researchers who are now working on this often have low reliability percentages of up to 70%."

Faster comparison

Although computers cannot take over Kloekhorst's work for the time being, he does see opportunities for AI in other areas. "German researchers put a digital corpus of all existing texts in Hittite online a fortnight ago. I'm very happy about that, because the fact that this did not previously exist left a huge gap in our field."

Among other things, this development makes statistical analysis of the texts easier. "In Hittite, the spelling is not completely fixed," Kloekhorst explains. "If you have the corpus in digital form, you can compare which spelling is used where much faster than if you have to go to the library every time to look up a transcript of a clay tablet."

Checks by humans

In recent years, therefore, considerable investment has already been made in digitizing clay tablets. "Perhaps relatively little has survived of Hittite, but we have perhaps half a million tablets in other ancient

languages," says Kloekhorst. "Some of these are now crumbling in museum depots. With a new 3D scanner, we can digitize them. That is incredibly cool, also because as a scientist you can work in a much more focused way by immediately focusing on the text itself, without all the manual work of data collection. There have even been attempts to scan clay tablets inside clay envelopes."

And maybe, Kloekhorst hopes, in a few years' time AI could then actually help decipher what is on those digitized tablets. "Maybe a computer can analyze which fragments belong together by comparing the break lines of tablets," he muses. "That would help tremendously, although I think we will continue to need humans to check the results."

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