

The importance of historical divergence time between languages

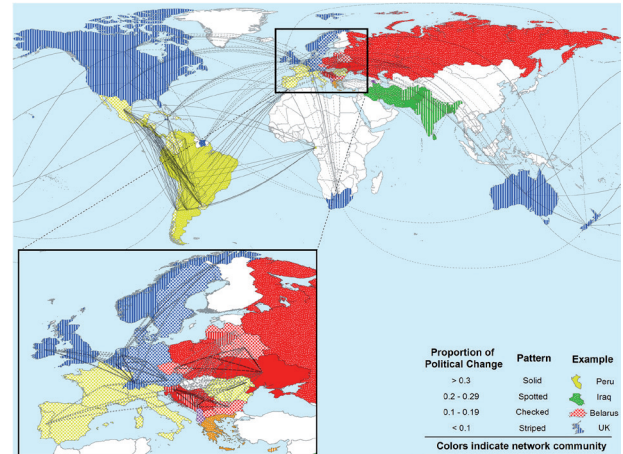
Luke Matthews, RAND

I work across several fields, but I most strongly identify as an evolutionary anthropologist. Within anthropology, there's always been this minority tradition that tried to be a little more scientific in the classic, positivist sense of that - testing hypotheses and formulating them in a kind of explicit way. You'll find people in a similar kind of tradition within sociology or political science have that kind of approach that tries to incorporate methods that maybe we would think of as more common in the natural sciences.

“All of us who do that kind of work, one of the typical types of datasets that we need are datasets that compile multiple different types of variables across different populations.”

I think within political science and sociology, that's kind of a minority tradition within those disciplines, but they're definitely there. All of us who do that kind of work, one of the typical types of datasets that we need are datasets that compile multiple different types of variables across different populations.

That's a pretty common data structure that we're using. Some people are going to work just within a single culture or population level where the data are individual, but in terms of this comparative kind of stuff, it's usually group-level data but with lots and lots of societies and lots and lots of variables.



The density of political changes (proportion of intervals with any change in polity score) layered across geography and the socio-linguistic affiliation network.

This project is our first paper from this research effort to use historical language phylogenies or divergences as a proxy measure for a lot of cultural stuff that is hard to measure.

We started to think this would be useful for more applied purposes, like predicting or modelling political change. So, in this paper, we did political change using this well-known polity score variable from political science and using, from economics, a measure of sovereign defaults (defaults on states by debts) over the past 100 years. For both models, we modelled it over the last 100 years.

The reason that I started to think the historical divergence time between languages might be a useful measure is because more and more studies are coming out from anthropological literature about variables that were correlated on these language trees: whether you're a polygamist or a monogamist,

what the rule is about where you live after getting married, do you move to the husband's location or the wife's location - this is a whole host of cultural stuff that seems to be correlated.



Section of a Bakhtiari saddle-bag illustrating examples of the technical and decorative traits used in the analyses.

It's not because language is determining that stuff - it's because there's a lot of things about culture that are passed on multi-generationally and the language divergence is a good way of measuring that because you learn languages from the prior generation.

That was the original inspiration for the paper. I think, for the sovereign default results, we find that there are mixed results and evidence for including this along with some other variables.

In the case of this political regime, the change in the character of the political regime, I think the evidence we have is a bit stronger that shows that this issue of how long languages are diverged is actually a better measure for predicting these correlated changes than is, for example, countries having the same language or countries being close together in space, that they share a border, or that there's not a lot of spacial distance between them.

“ It's not because language is determining that stuff - it's because there's a lot of things about culture that are passed on multi-generationally and the language divergence is a good way of measuring that because you learn languages from the prior generation. ”

So, I think, particularly for that political variable, we have demonstrated that this language divergence is a good proxy measure that seems to outperform the other common measures that you might pull.

Get in touch:

figshare.com

info@figshare.com