

SUMMARY KEYWORDS

languages, economic, speak, linguistic, work, linguists, bilinguals, people, speaker, effect, network, inherent value, research, minority, french, literature, affect, understand, german

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Economists have been thinking about language for more than half a century. And broadly speaking, this work comes in two flavours. First is research that thinks about how linguistic features or linguistic variables might affect the objects of study that economists are interested in. And then second, there's research that is how we might be able to use the tools and methods of economics to shed light on questions that interest linguists. The first kind of research that is research thinking about how linguistic variables might affect economic variables.

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There's been a lot of that's probably where most of the work at the intersection of economics and linguistics has taken place. So there are many examples of this connection, we can think about language skills being a form of human capital. If we do that we can ask, what are the returns to investing in a second language so we can ask how the language skills affect patterns of migration. Not surprisingly, people may want to migrate to a place where they can already speak the language. Another example is we can ask our shared language effects happens abroad. There are dozens of empirical trade papers that use language as one explanatory variable and one of the very robust findings of this literature is that countries that have a common language will tend to trade more with each other after you control for all other factors. Another example would be to ask how diversity of languages within an economy affects long run growth. There's some work that suggests that when you have a lot of linguistic diversity within an economy that impedes growth, there's work in the area of management, about how language use how languages are used in multinational firms when multinational firms have to navigate different subsidiaries where different languages are spoken, and have to make decisions about whether to institute a corporate language and so forth.

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And the last one maybe I would mention is this fascinating work by Keith Chen, that considers have some syntactic features of language. So in particular, he looked at how languages mark a future tense might affect intertemporal decisions that people make such as how much they want to consume, versus how much they want to save. So there's been a lot of a lot of work in all kinds of subfields of

economics, looking at how linguistic factors can affect economic With economic variables, if we think about language as a form of human capital, then we think about those skills as being something a that people invest in, and be that they get a return from. So what you might expect to see is that languages that have a particular economic value would be the languages that people would invest in learning. So, not surprisingly, languages that are spoken a lot, particularly English, but also perhaps Mandarin, Arabic, those are the kinds of languages that people are unlikely to want to invest in learning because they see an economic return from that. And the literature has both shown that there is that there is that investment that depends on the value of languages and there is also a clear return to speaking valuable languages. I do want to be very clear about something when I talk about the value of languages here, I'm very deliberately speaking in a narrow economic sense.

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I'm certainly not making a statement about the value of languages in general. And even when we come to the second line of research that we'll talk about, a lot of that work is about helping us understand how we might be able to protect minority languages, what it is that allows minority languages to survive. So, there is an economic reality that some languages are more valuable in an economic sense, English has become the lingua franca of internet international business. But that of course, is not a statement about the value of languages in any inherent way or the value of languages as repositories of culture, and things like that. Let me be clear about something from the sun when I talk about the evolution of language is, of course fundamentally a linguistic question, not an economic question. So if you think about syntactic change, semantic drift, phonological variation, the kinds of things that linguists study, start looking more in the domain of historical linguistics sociolinguistics ask about language use language communities, then social sciences, such as economics do have something to bring to the table. In particular, one of the things that's well understood now is that language has powerful network effect. So in the, in the jargon of economics, network externalities, as I think most people probably know, a network effect says that the value of being part of a network is typically going to be larger when the network is larger. So Facebook membership or LinkedIn membership, those things are valuable. Precisely because they have so many users. But there's a reason why Facebook is thriving and MySpace has kind of died. Facebook has lots of people who are on Facebook. So the value of being on Facebook is substantial.

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The same is true of languages. It's more valuable, in an economic sense to be a speaker of English or Mandarin or Arabic than it is to be a speaker of Welsh or last year no intellect. Again, that's not a statement about the inherent value of languages. It's just a hard reality of economics. So if we want to

understand how to protect endangered languages, one of the places we can look is to see where languages derive their value in use. And if you take this perspective of the strong network effect of some network effect, say that people are going to want to speak the languages that lots of other people speak and the mystery becomes in some ways not why so many languages are dying out, which is something that linguists worry about very deeply. But why so many are not? Why are languages surviving? And so some of the some of the work that's been done in economics, and I should say this isn't just in economics, there's also work in computational linguistics that come up many of the same questions and arrived at some of the same answers. That literature has pointed to a few things. One is the importance of geography. So, not surprisingly, languages can survive better when you've got speakers who are located together. So the same number of speakers all in one place are going to be more likely to be able to preserve a language than if they were widely dispersed. A second thing that matters a lot is the the presence of bilinguals. So when you have a A lot of bilinguals than the there's less cost to being a monolingual speaker of a minority language because there are going to be bilinguals out there that you can communicate with. And a third factor that's been discussed in some of the research is just the idea that some minority languages have some inherent value in use. In other words, as we well know, speakers of minority languages may be willing and motivated to actively try to keep those languages alive to make a particular effort to speak them when they can can make particular efforts to educate their children in those languages.

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There's a whole set of language change phenomena that are very much about linguistics. But I think we can also use these economic frameworks on computational linguistic frameworks to look at First of all at how language use changes, and also potentially to look at how language itself changes as well.

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So the language use question is what I in some some time already been talking about the people make choices about which language to use, and they make choices about which language to learn. And they make choices about which language to educate the children. But there's also a question over time about how languages evolve. And one of the things that we know from linguistics is that people who are co located and speaking to each other will tend to find the language that they speak becomes more similar. People who are isolated from each other will start to see differences emerging in their languages that will compound over time. So of course, we understand this If we if we think about, I think a lot of people know about language trees and how a lot of the say the different European languages today, if we go back far enough they have common roots in, in, in an earlier language. So the story then becomes build term economics help us understand why people may have dispersed and why people

may have decided to stay together. And one piece of research that I've done on that, together with my co author on Oscar looks at the possibilities that there may be local interactions or if you like local network effects, that suggests that people will spend more time with those that they communicate with, and that these effects can become self reinforcing. So, to make this more concrete, imagine you've got To pay a travelling salesman in Strasbourg, on the, on the border of France and Germany. And let's suppose this particular individual speaks French, better than he speaks German, then what he's gonna want to do in terms of his economic interactions is speak to people who also speak French. So when he does his travelling, he's likely to go into France rather than into Germany. Now, if we imagine that everybody is behaving that way, then you can see that even if to begin with people near that France, Germany border around Strasbourg, all kinds of spoke the same language. There would be some people who would start to spend more time with other French, other people on the French side, let's say and some people would spend more time on the German side and over time, and we're talking generally Hear over time, you'd start to see differences in the languages emerging as language changed over time. And that, of course, reinforces the idea that the people who can communicate better with those on the French side are going to continue to interact with them. And the people who can interact more easily with those on the German side will continue to interact with them. So what can happen is starting off from a situation where everyone is kind of more or less the same, with just a little bit of randomness, and then the local network effects, you can get split. in languages in merging essentially, you can get language communities, forming endogenously forming just as a result of the decisions that are made over generations. Our conclusion from that is if we, if we look at the very long runs sweep of language languages over over millennia, over 10s of millennia, One of the things that we think we know is that there have been there was a period when there were more languages in the world. And then of course, we know that more recently, languages have been disappearing. Now, if we want to understand particular language, why French became powerful and then maybe a little bit less powerful why English has evolved in the way it has lots of specific things come to come to mind to help explain that was and colonisation, all of those things. But if we want to just look at the broad broad picture, the general appearance and disappearance of languages, what my colleague Nora and I claim is that you can actually explain that really quite a simple way, a very parsimonious way with this interaction of a economic forces, linguistic forces.