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The Observer Language

'I couldn't believe the data': how thinking in a foreign language improves decision-making

Research shows people who speak another language are more utilitarian and flexible, less risk-averse and egotistical, and better able to cope with traumatic memories



Illustration by Observer Design.

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As Vladimir Nabokov revised his autobiography, *Speak, Memory*, he found himself in a strange psychological state. He had first written the book in English, published in 1951. A few years later, a New York publisher asked him to translate it back into Russian for the émigré community. The use of his mother tongue brought back a flood of new details from his childhood, which he converted into his adopted language for a final edition, published in 1966.

"This re-Englishing of a Russian re-version of what had been an English re-telling of Russian memories in the first place, proved to be a diabolical task," he wrote. "But some consolation was given me by the thought that such multiple metamorphosis, familiar to butterflies, had not been tried by any human before."

Over the past decade, psychologists have become increasingly interested in using such mental metamorphoses. Besides altering the quality of our memories, switching between languages can influence people's financial decision-making and their appraisal of moral dilemmas. By speaking a second language, we can even become more rational, more open-minded and better equipped to deal with uncertainty. This phenomenon is known as the "foreign language effect" and the benefits may be an inspiration for anyone who would like to enrich their mind with the words of another tongue.

People hate the prospect of losing – but they hate it less in a foreign language
Boaz Keysar

The foreign language effect should not be confused with the older concept of "linguistic determinism", which proposes that the specific words and grammar of a language can change the way we perceive the world. In this view, people's colour perception should change according to the terms that we use to divide the rainbow, while people's perception of time may be influenced by the grammatical tenses they use.

You may be familiar with this idea from the film *Arrival*, in which the aliens' language mysteriously shapes their experience of the world. Whether this happens in real life, however, is still a matter of considerable scientific

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debate. The foreign language effect does not depend on the particular features of the language that someone speaks; instead, it is concerned with the general experience of moving from a first to a second language. How will my thinking change, for example, when I move from English, which I absorbed in my cot, to Italian, which I have painstakingly studied as an adult?

Influencing moral reasoning: the ‘trolley problem’

For Prof Boaz Keysar at the University of Chicago, who pioneered this research, the inspiration was personal. He grew up in Israel, and has now lived in the US for more than three decades, but still finds that Hebrew has more emotional resonance than English. Driving home from work one day, he started to wonder whether this might influence our moral reasoning, which is often driven by our gut feelings rather than logical reasoning.

Imagine, for instance, that you are standing on a footbridge when you see that an oncoming train is about to kill five people walking on the track. The only way to save these five people is to push a heavy man off the bridge in front of the train. He will die but the impact will prevent the train from hitting the other five people. This is considered the “utilitarian” choice in a version of the thought experiment known as the “trolley problem”. Many people feel such strong revulsion at the idea of pushing the man to his death that they would prefer to take no action at all, even though that means that many more lives will be lost.

In a preliminary experiment, Keysar’s team asked participants who had learned Spanish as a second language to consider this dilemma in either their native or adopted tongue. As he had hypothesised, they were far more likely to make the utilitarian choice when they used Spanish compared with English. The effect was so big that Keysar delayed publishing the results. “I just didn’t believe the data,” he says. A **later collaboration** with Albert Costa at the Pompeu Fabra University in Barcelona, however, documented the same results across diverse participants from the US, Europe and Asia. In one sample, participants were twice as likely to choose the utilitarian option when speaking a second language.



📷 Amy Adams in Denis Villeneuve's 2016 sci-fi drama Arrival. In it, she plays a linguist recruited by the US military to find a way to communicate with aliens who have come to Earth. Photograph: TCD/Prod.DB/Alamy

In the meantime, Keysar had turned his attention to the **classic cognitive biases** such as “myopic loss aversion”. Previous experiments showed that people are unwilling to risk losing a small amount of money for the chance of winning a bigger sum, even if the odds are tipped in their favour. If you give people a 50% chance of winning £2.50, for example, or offer them the opportunity to take £1 for sure, most people go for the guaranteed money. This may pay off in the short term, but when you have made many such decisions, it severely limits your profits.

Myopic loss aversion is a serious problem for investors, but Keysar found that this tendency was much less pronounced when the bets were presented in a foreign language. “People just hate the prospect of losing,” says Keysar. “But they hate it less in a foreign language.” Further experiments have shown that speaking a foreign language can also reduce the **framing effect**, which is our tendency to be swayed by the particular phrasing of information, and the **sunk cost effect**, which is our reluctance to leave a failing endeavour.

One of the most intriguing recent studies tested the “bias blind spot” – the expectation that we are less susceptible to error than the average person. “We believe that other people are stupid, and we are not,” explains Michał Białek, an associate professor at the University of Wrocław, Poland. In line with Keysar’s findings, he found that speaking a foreign language **punctures this egotistical way of thinking**.

It is now 11 years since Keysar published his first paper on the foreign language effect. Over the same period, many psychological findings have crumbled under scrutiny – but not the foreign language effect. “It’s consistent and replicable,” says Simone Sulpizio, an associate professor at the University of Milano-Bicocca, Italy, who conducted a recent **meta-analysis** examining the evidence to date, though both he and Białek

emphasise that we need more research into the mechanisms behind the effect.

The memory game

Psychologists have also started to explore how the foreign language effect may touch many other areas of our psyche. Consider memory, the topic of Nabokov's musings. We encode our recollections with verbal narratives, particular words triggering specific associations attached to an event. As a result, a **childhood memory** may seem less vivid when someone recalls it using a language that was acquired later in life. That may be a disadvantage for someone writing a memoir in a foreign tongue. On the plus side, it could help people to process painful events. People who recalled a **childhood trauma in a second language** showed less emotional distress than those recounting the event in their native tongue.

Keysar's **latest study**, led by his PhD student Leigh Grant, has shown that the foreign language effect can discourage the creation of false memories. In one experiment, the participants were first given a list of connected words, such as "dream", "snooze", "bed" and "rest". When their recall was tested later, many people mistakenly remembered hearing the word sleep, which was not on the list. This is a standard technique to test people's tendency to form false memories, and it was considerably less likely to happen if they performed the task in their foreign language.

In a follow-up experiment, the team showed participants two clips of robberies from the films *The Pink Panther* and *Riffi*, before playing them audio narratives of the same events that contained some false details. This can muddy people's memories so that they begin to incorporate the misinformation into their own recollections. Once again, participants managed to avoid more of those errors when they heard the descriptions in their second language.

Keysar suggests that people employ more careful and deliberative thinking when using their foreign language: "You need to make sure that what you say, and how you understand things, is correct." And they apply the same attention to the monitoring of their memories, leading them to question the accuracy of their recollections rather than simply recounting the first thing that comes into their heads.

The foreign language effect may even stretch to elements of our personality. Silvia Purpuri at the University of Trento, Italy has examined "tolerance of ambiguity", which concerns people's appreciation of uncertainty, and their willingness to enter unfamiliar situations. This can influence our behaviour in a changing workplace. "Those with high levels of tolerance of ambiguity display more flexibility and adaptability, leading to a more harmonious working environment and overall successful performance," explains Purpuri. By allowing people to entertain new ideas, tolerance of ambiguity can improve people's creative problem-solving. Recruiting Italian-English bilingual speakers, **Purpuri and her colleagues found** that people naturally score more highly on this trait when primed to use their second language.

In today's increasingly globalised world, many people regularly use two or more languages in their day-to-day lives, yet they may be completely unaware how that may influence their thinking. "People need to realise that if they choose to use one language over the other, that will have a systematic effect on the process and outcome of what they do," says Keysar.

We still need much more research examining the limits of the foreign language effect and the cases where it may backfire. But in certain situations, it could be **a useful tool to switch mindsets**, allowing us to be a little more detached, objective and flexible in our thinking. You could deliberately swap to your second language when investigating important investments, for instance, so that you can more rationally appraise the risks. Or, when facing a personal upset, you may find that describing the situation in your second language helps to **calm some of your fears or anxieties**. And if you are considering a controversial new environmental policy, you might try to read about it in a foreign newspaper: **the research suggests** that this may render you more open-minded to the facts at hand and less easily swayed by your immediate gut reaction.

For those who already speak another language, this may be an unexpected payoff for all your studies. For those who do not, such benefits may offer an extra incentive to pick up your old French textbooks, sign up for a night class in Spanish, or download Duolingo. Nabokov's experience may have been exceptional, but we may all undergo a mini-metamorphosis as we immerse our minds in the words and idioms of another culture.

The Expectation Effect: How Your Mindset Can Transform Your Life by David Robson is published by Canongate (£10.99). To support the *Guardian* and *Observer* order your copy at [guardianbookshop.com](https://www.guardianbookshop.com). Delivery charges may apply

The main image for this article was amended on 21 September 2023. An earlier version contained an error in the Arabic translation

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