

## Why is life's genetic code so limited?

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All life on Earth exists thanks to a universal genetic code. This biological rulebook tells our cells how DNA should be translated into life-supporting proteins, without which we couldn't survive.

Even though the genetic code commands a seemingly immeasurable number of organisms, it also binds us all together as descendents of a shared ancestor—a [lingua franca for life](#).

Yet for all of its diverse and essential properties, the genetic code is static. For some reason unknown to scientists, approximately 3 billion years ago it simply stopped growing. Instead of expanding to encode new combinations of amino acids, and potentially new life, it stagnated at its current size and function. But [a new study](#) published in the journal *Science Advances* offers an explanation for the genetic code's mysterious evolutionary limit.

A team of geneticists from the Institute for Research in Biomedicine and the Centre for Genomic Regulation discovered that several billion years ago, the genetic code reached a point of self-preservation. Namely, it could continue evolving and risk mutating the building blocks of life it was responsible for creating, or it could remain limited, albeit functional.

The origin and expansion of the genetic code occurred long before the split of the three domains of life: bacteria, eukaryotes, and archae. And it [wasn't until the 1960s](#) that scientists were finally able to unlock its fundamental structure. But for all the potential it held to engineer brand new lifeforms, the genetic code has been relatively uncreative.

**Read full, original post:** [Why Did the Genetic Code of All Life on Earth Suddenly Stop Evolving?](#)