Macro Roundup Artcile

Headline: A New Idea for How to Assemble Life

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Author(s)	Philip Ball
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Tweet: Assembly theory estimates an “Assembly Index” for various substances by measuring the complexity of their molecular structures. Since biological entities tend to have high complexity, this theory offers a possible test for extraterrestrial life.

Summary: Assembly theory started when Lee Cronin of the University of Glasgow in Scotland asked why, given the astronomical number of ways to combine different atoms, nature makes some molecules and not others. It’s one thing to say that an object is possible according to the laws of physics; it’s another to say there’s an actual pathway for making it from its component parts. “Assembly theory was developed to capture my intuition that complex molecules can’t just emerge into existence because the combinatorial space is too vast,” Cronin said. Sara Walker of Arizona State University, meanwhile, had been wrestling with the question of life’s origin — an issue closely related to making complex molecules, because those in living organisms are far too complex to have been assembled by chance. Something, Walker mused, must have guided that process even before Darwinian selection took over. Called assembly theory, the idea underpinning the pair’s strategy has even grander aims. As laid out in a recent series of publications, it attempts to explain why apparently unlikely things, such as you and me, even exist at all. And it seeks that explanation not, in the usual manner of physics, in timeless physical laws, but in a process that imbues objects with histories and memories of what came before them.

Primary Topic: Science

Topics: News article, Science, Theory

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