
Testing the ZFEL in a Macro-evolutionary Context

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Abstract

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The history of life on Earth shows a dramatic, though not smooth, increase in diversity. We argue that such an increase is an expected feature of life and that natural selection does not explain it. Reviewing the best current explanations of macroevolutionary diversity we show that all of these explanations share a common feature, namely they rely on what we term the Zero Force Evolutionary Law. Stating this law explicitly allows us see what unifies the best current explanations of macroevolutionary diversity and to see that it is the fact that lineages' trajectories tend to move randomly with respect to each other that actually explains diversity increases. Measuring and quantifying the default rate of change of lineages is possible and would allow for a quantitative test of the ZFEL in a macro-evolutionary context

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