

ANU philosopher urges consensus on 50-year debate

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(PhysOrg.com) -- Misinterpretation of a key scientific concept has led to decades of fierce debate according to an Australian National University philosopher.

In a hugely influential paper published fifty years ago, eminent scientist Ernst Mayr distinguished between ‘why’ questions and ‘how’ questions in biology; for example, the difference between asking ‘why do birds migrate’ and ‘how they know when to migrate’.

Dr Kim Sterelny of the School of Philosophy says that [misinterpretation](#) of this distinction has created a rift in the biological world that is holding science back.

“Many current controversies in evolutionary theory in part depend on different views about the relationship between ‘how’ and ‘why’ questions,” he said.

Instead of treating ‘how’ and ‘why’ questions as equally important, many scientists are choosing sides and ignoring the fact that such questions are complementary rather than alternative ideas.

In a paper published in *Science*, Dr Sterelny and his co-authors have urged the scientific community to re-evaluate their interpretation of this important issue.

They are calling for a change in the default view from seeing ‘how’ and ‘why’ [questions](#) as unrelated to recognising them as reciprocal.

“Instead of primarily focusing on single cause-effect relations within systems, the evolutionary sciences as a whole should focus on broader trends, feedback cycles, or the tracing of causal influences throughout systems. This debate is relevant to all of the biological sciences - evolution, psychology, linguistics and molecular biology,” Dr Sterelny said.

More information:

www.sciencemag.org/content/334/6062/1512.abstract

Provided by Australian National University

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