

Darwinism: Dead Wrong? (Venue: Manika Milapa/Hall 2)

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Even prior to Darwin's publication of *On the Origin of Species by Means of Natural Selection* the fellow Victorian evolutionists such as Thomas Huxley and St. George Mivart were eminent and visible embraced a non-gradualistic, developmentally grounded theory of change. For them, Darwin's conflation of adaptation and evolution – that is, evolution being adaptation writ large – was an incorrect assessment of nature. Rather, evolution (meaning change at the very early stages of development the led to novel features) or the origin of species was distinct from adaptation or the survival of species.

The sidelining of Darwinism as a minority opinion persisted into the early 20th century until Thomas Hunt Morgan, the “father” of fruit-fly population-genetic studies, imagined a way in which the discreteness of Mendelian properties of inheritance could be conflated with the gradualism of Darwinism. This in turn informed the founders of the evolutionary synthesis, who, beginning in 1941 with Theodosius Dobzhansky's second revision of *Genetics and the Origin of Species* purposefully set out to submerge and “disappear” alternative theories to Darwin's model of continual gradual change. With the subsequent publication's Ernst Mayr's *Systematics and the Origin of Species* (1942) and George Gaylord Simpson's *Tempo and Mode in Evolution* (1944) the expulsion of alternative and critical thinking was complete. And this single, myopic vision of a gradualistic model of evolution in which adaptation and evolution remained conflated came to dominate every domain of “change” thereafter.

But the history leading to and through the evolutionary synthesis demonstrates that this Darwinian enterprise was founded on little biology. Rather, it was based on diatribe and ad hominem attacks on those who “dared” to have different theories of evolution. Consequently, with this victory, those who embraced evolution after the synthesis were left with only one way in which to think: adaptation = evolution, and change results from the gradual accumulation of small variations (genetic and somatic).

In this panel we will explore the historical detail underlying the emerge of the synthesis and present real data from the realm of cell and developmental biology that actually demonstrates not only that the synthesis was based on personal opinion rather than fact but also that the real elements of biology preclude the possibility of Darwinian evolution. Instead they are more consistent with the stance of Huxley, Mivart, Bateson, DeVries, and Morgan early in his career – that the provocation of evolutionary novelty is divorced from selection, which only makes sense on the level of adaptation. In simpler terms, the emergenc of novelty is a stochastic and random event that most often leads to death, but if a novel feature persists and doesn't kill you, you have it. After that it's up to the species to survive. But this does not equate with change. In this regard, renaming Darwin's most famous tome as *On the origin of adaptation by means of natural selection* makes far better sense of the possible significance of his arguments – and those are what are really being addressed when most folks talk about “evolution” in non-biological systems.