
Theoretical and Methodological Diversity in the 1980s: Early Development of Evo-devo

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Abstract

When the development of evolutionary developmental biology (for short, "evo-devo") is discussed, it is often said that in the 1980s, there were diverse movements that rethought the relationship between evolution and development (Love and Raff 2003; Laubichler 2010). The aim of this talk is to point out that some of the movements in the 1980s attempted to and actually did partially integrate methodologies and results of diverse disciplines. Moreover, I argue that they had significantly different positions on the accepted framework of the Modern Synthesis. For example, some researchers attempted to *include* development *into* the gene-centered framework of the Modern Synthesis depending mainly on results from developmental genetics and also on those from comparative embryology, paleontology, or comparative morphology. (e.g., García-Bellido 1983; Raff and Kaufman 1983). Other researchers, however, *criticized* such a gene-centered and adaptationist framework: They tried to demonstrate the importance of epigenetic mechanisms to evolution by integrating methodologies and results of comparative morphology and experimental embryology (e.g., Alberch and Gale 1985; Hall 1984; Múller and Streicher 1989). Thus evo-devo was formed as the combination of these different interdisciplinary researches in the 1980s, and therefore has included the *opposing* positions on the gene-centered and adaptationist framework of the Modern Synthesis.

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