
To what extent – and why – did the Modern Synthesis give Developmental Biology short shrift, 1960-1980?

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Abstract

It is often said that the Modern Synthesis (MS) excluded developmental biology and deemphasized the relevance of developmental processes to evolutionary processes and outcomes. This (supposed?) exclusion provides proponents of evolutionary developmental biology (and others) with a major ground of criticism of the MS. The allegation of exclusion is not entirely correct. For example, Theodosius Dobzhansky (and some of those he influenced) envisioned an important role for development in shaping evolution, albeit redescribed in population genetic terms (see Depew 2011). Yet, when one considers the reaction of many architects of the MS to such figures as Goldschmidt and Waddington, there is at least a grain of truth in the criticism.

I will examine the extent to which development was excluded from the MS and the extent, and the ways in which, developmental biology influenced changes in the MS ca. 1960-1980. In doing so, I will consider the role played by the resistance to Lysenkoism and Lamarckism (as it was then understood) in shaping evolutionary orthodoxy among leading (Western) evolutionary theorists, resistance that was greatly strengthened by considerations stemming from the Cold War. The importance of this issue raises the difficult and inescapable question of the extent to which ideological preoccupations influenced the "narrowly scientific" arguments that led to the dominance of the MS in evolutionary theory.

Depew D.J., 2011, 'Adaptation as process: the future of Darwinism and the legacy of Theodosius Dobzhansky', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 42(18): 89-98.

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