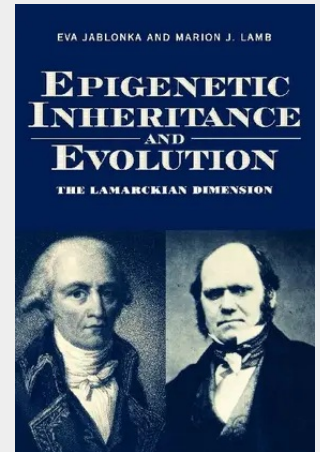


Epigenetic Inheritance and Evolution

This book discusses the evidence for and against the heritability of acquired characters. Does the inheritance of acquired characteristics play a significant role in evolution? In this original and potentially controversial book the authors explore an often neglected aspect of Darwinian evolution - the nature and origin of hereditary variations. The theory of evolution proposed by Jean-Baptiste Lamarck (1744-1829), that characteristics developed during life by use and disuse can be inherited by offspring, lost support among Western scientists because it lacked definite proof. Jablonka and Lamb do not act as advocates or apologists for Lamarck, but they do challenge the prevailing assumption that all heritable variation is the random result of variation in DNA base sequence. Looking afresh at the evidence for and against the heritability of environmentally induced changes, the authors ask some timely questions about the importance of non-mendelian inheritance. This important work will be of great interest to all biologists and historians of science.

Does the inheritance of acquired characteristics play a significant role in evolution? In this book, Eva Jablonka and Marion J. Lamb attempt to answer that question with an original, provocative exploration of the nature and origin of hereditary variations. Starting with a historical account of Lamarck's ideas and the reasons they have fallen in disrepute, the authors go on to challenge the prevailing assumption that all heritable variation is random and the result of variation in DNA base sequences. They also detail recent breakthroughs in our understanding of the molecular mechanisms underlying inheritance--including several pathways not envisioned by classical population genetics--and argue that these advances need to be more fully incorporated into mainstream evolutionary theory. Throughout, the book offers a new look at the evidence for and against the heritability of environmentally induced changes, and addresses timely questions about the importance of non-Mendelian inheritance. A glossary and extensive list of references round out the book. Urging a reconsideration of the present DNA-centric view prevalent in the field, *Epigenetic Inheritance and Evolution* will make fascinating and important reading for students and researchers in evolution, genetics, ecology, molecular biology, developmental biology, and the history and philosophy of science.



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