

The book is a great learning tool and valuable resource for students and researchers in the field of developmental genetics and evolutionary biology. The author, himself an expert in *Drosophila* development, draws out in a clear and concise manner the parallels that unite all animals in regard to developmental mechanisms and the underlying gene networks. The book follows a novel and highly original approach, and will be a relevant and inspiring read for anyone interested in the biological underpinnings of human health and disease.

Volker Hartenstein, University of California, Los Angeles, CA, USA

Deep Homology explores a deep truth. There is a kinship between human bodies and the bodies of flies. Way down at the level of the genes, our family likenesses are incredibly intricate, interesting, and instructive. To trace these resemblances is to discover (among other things) the ghostly image of our lost common ancestor, which lived six hundred million years ago. Lewis Held lays out all of the details, the nuts and bolts of what we know and what we don't, with great charm and enthusiasm. The picture is complex. It is also beautifully simple, as William Blake understood when he wrote "The Fly." "Am not I /a fly like thee? /Or art not thou /a fly like me?"

Jonathan Weiner, Author of *Time, Love, Memory*

This is a marvelous and engaging book, focusing on elucidating a critical facet of modern evolutionary biology, the idea of "homology". Lewis Held seizes on this deceptively simple concept and, exploring it in clear and simple terms, he takes the reader on a journey that provides a glimpse into what the common ancestor of all complex animals must have looked like. I heartily recommend it to anyone with an interest in biological evolution or with a curiosity about the modern science of evolutionary developmental biology.

Cliff Tabin, Harvard Medical School, Boston, MA, USA

Humans and fruit flies look nothing alike, yet their genetic circuits are remarkably similar. Here, Lewis I. Held, Jr. compares the genetics and development of the two to review the evidence for deep homology, the biggest discovery from the emerging field of evolutionary developmental biology (evo-devo). Remnants of the operating system of our hypothetical common ancestor 600 million years ago are compared in chapters arranged by region of the body, from the nervous system, limbs, and heart, to vision, hearing, and smell. Concept maps provide a clear understanding of the complex subjects addressed, while encyclopedic tables offer comprehensive inventories of genetic information. Written in an engaging style with a reference section listing thousands of crucial publications, this is a vital resource for scientific researchers, as well as for graduate and undergraduate students.

LEWIS I. HELD, JR. is a fly geneticist who has taught human embryology for 30 years at Texas Tech University.

Cover image provided by the author

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