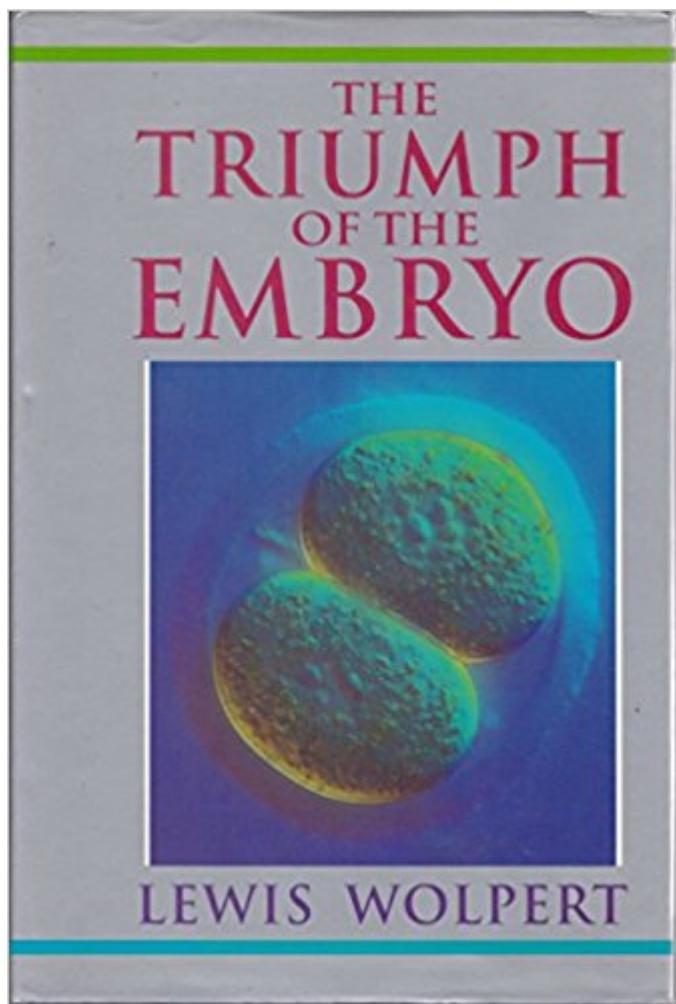


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# The Triumph Of The Embryo



## Synopsis

Of the great mysteries that face modern biologists, one of the most intriguing concerns the development of the microscopic embryo into exceedingly complex plants and animals--into roses and cacti, elephants and blue whales, apes and human beings. How does one cell give rise to so many millions of cells? How do they divide so as to form hearts, brains, eyes, and ears? Where in this pin-head-sized object is all this information encoded? Now, in *The Triumph of the Embryo*, British biologist Lewis Wolpert treats general readers to a lucid tour of embryology, offering the latest theories in this fascinating field. Like the best scientist-authors, Wolpert's writing is filled with rich and unusual examples, metaphors, and descriptions. Nor does he hesitate to move beyond his overall narrative to discuss the many issues it raises, such as aging, cancer, regeneration, and evolution. Readers discover why all calico cats are female; encounter a zebra-striped mouse and a fruit fly engineered to grow a leg out of its head; and consider such topics as why "cell death" is important in sculpting the body or why there seems to be a 110 year age barrier for the human body. Wolpert also traces the early history of the field, ranging from the original conflict of embryology raised by Aristotle right up to the belief (held even in the 19th century) that every human spermatozoa contained a fully-developed human being. And he illuminates modern embryology, sharing with readers a glimpse of the forefront of the field, including such groundbreaking concepts as CAMs (cell adhesion molecules) and induction (a mode of cell interaction whose discovery won the only Nobel Prize in embryology). To Wolpert, the triumph of the embryo is its ability to exploit with brilliant success a group of basic, elegant, and universal mechanisms in order to develop into a fully formed creature--no matter if it's to become a hydra or a horse. To readers, the triumph of *The Triumph of the Embryo* is Lewis Wolpert's ability to tell us all about it.

## Book Information

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## Customer Reviews

Embryology or, as it is often called, developmental biology is the difficult and complex study of how a single cell can multiply and become an adult animal or human. By dividing this book into short topics that build upon each other (and are cross-referenced within the text), Wolpert makes this difficult subject interesting and easy for a layperson to understand. Each topic, from regeneration to wiring the brain, is discussed and illustrated with easy-to-understand descriptions of the experiments by which his points were either proved or discovered. Wolpert very carefully separates his assumptions and scientific theories from known fact, which is particularly helpful to the lay reader. There is no other current book about embryology aimed at nonspecialists; this book complements Scott Gilbert's more technical Developmental Biology (Sinauer, 1988). Recommended for public and college libraries.-Eric D. Albright, Galter Health Sciences Lib., Northwestern Univ., Chicago

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**About the Author:** Lewis Wolpert is Professor of Biology as Applied to Medicine at University College, London. He co-authored *A Passion for Science*, a collection of interviews conducted by Wolpert for BBC-Radio.

This is a short, easily read, and absolutely riveting book. I was overjoyed to find this book at a college library. I've long wanted to learn more about embryology but had found it impossible to find a book written for the layman. I figured this should be an interesting subject for the common reader (like myself), but all I could find were dry cursory descriptions in bio textbooks--which made no attempt to make embryonic life seem relevant or understandable. Through this book I've found that embryology is absolutely fascinating. Embryos exist through the most biologically astonishing parts of human (or any animal) life. I can't even begin to relate how many interesting things are in this book. To me the whole book is worth the jaw-dropping description of 'gastrulation', a process I had never heard of. When I looked this up in my anatomy and physiology textbook, it was scarcely (and quite uninterestingly) covered. And yet "it's been said that I claim that gastrulation is, far more than birth, marriage, or death, the one important event in your life", Wolpert says, and I'd say he's right on. Other things like fertilization, DNA, implantation, and the development of body structures are

readily explained. This book seems to presume no prior biological or medical knowledge. I have little scientific background and I followed it well. It is not drily written like textbook, but told more like a narrative. I highly recommend it for the average science reader and for the beginning student of biology.

Lewis Wolpert is one of the scientific community's great communicators. This book was a classic in promoting public scientific literacy to an earlier generation. It still has much to offer but has faded due to lack of revision and lack of illustration. I think if Lewis Wolpert gave this book 3 days revision and added some of the beautiful pictures available on embryological development at his disposal it would speak again to a new generation. Perhaps he could give it to an aspiring young colleague who he trusts with its revision if he has not the time. I also think he would be kinder as he has aged to former generations of researchers for the ideas that turned out to be incorrect. He has been an absolutely outstanding author preparing the way for the current Evo Devo revolution.

I don't agree with the hype that this book is "easily read and understood by the layman". I think one needs a basic biological background to understand it. This is a good book if, like me, you had a cursory and very dry introduction to embryology in the past, and wish to fill in the gaps. If you don't have some basic scientific knowledge, forget it. The writing style, in British English, is at times awkward and clumsy, with attempts at humor that seem rather precious to American ears. Certain key words like 'homeobox' are also casually tossed around several chapters before they are actually defined. The writing level varies rather widely, at graduate biology level in some places while in other areas the discussion was quite simplistic - far too much so, with important points in late embryonic development, cancer development, and genetic mutation being glossed over or completely left out. I think the concept of writing a readable embryology text is a good one, and this was a brave attempt - it's certainly better than most of the available dry textbooks on the subject. However, this book struck me as trying too hard to satisfy both the layman and the scientist, and comes up short for both audiences - half of one and six dozen of the other, so to speak. I would love to see this book expanded to include more detail on the stuff people really want to know - what about human genetic issues and mutations? What about cancer genes? The book also needs a style overhaul to speak at the same level throughout. That being said, it is a mostly an enjoyable book, if embryology is something you like.

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