
Book Review

The Coiled Spring – How Life Begins. By ETHAN BIER
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Ethan Bier investigated the fascinating question of how an egg develops into an organism with all the right parts in the right places. The author describes the experiments that enabled scientists to unravel these processes in frogs, flies, plants and vertebrates. The book concentrates on embryos, limbs and eyes. It is aimed at the general scientist, with the idea in mind that society needs to understand the implications of developmental biology for human welfare. To achieve this, a basic understanding of this field by a wider audience becomes very important.

I found the book interesting and easy to read, but I already know the concepts, the experiments and the ideas. It is clearly written and well illustrated, but I fear there is still too much detail to keep the attention of most people without a good background in biology. It is more likely to be of value as a teaching aid to undergraduate courses to supplement the standard textbooks, and I would recommend it for mid-course undergraduates.

Whilst I can understand why the author selected to look at embryos, limbs and eyes, because of the excellent experiments done with these systems, and the ready comparisons between systems, it does present a rather biased view of development. It lacks coverage of many topics that are crucial during animal life, such as the development of the reproductive system, where links with the environment and hormonal controls come into action. These areas are exciting because of the differences between systems, such as why humans tend to have one offspring at a time, sheep two, and mice several, as well as the similarities in the genes, hormones and control mechanisms involved.

The book makes an impact by assessing the implications of the new technologies that are helping to revolutionise our understanding of development and human health and our environment, and stimu-

lates the reader to think about what will happen as people begin to use these techniques to modify development.

There is an added and interesting idea of having interviews with some of the scientists at the forefront of experimental studies in development. I think the best part about the interviews is that they convey the real excitement and fun of discovery experienced by researchers, and this can be very valuable for motivating students to think of science as a career. I found the choices interesting, those people from the past and those who began their work in development some years ago, like John Gurdon and Antonio Garcia-Bellido have certainly made a big impact. Some of the scientists featured have made huge contributions such as the Nobel Prize team of Ed Lewis, Christiane Nusslein-Volhard and Eric Wieschaus. There are some people who, had I produced a snapshot of who was influencing thinking about development 20 years ago, I would certainly have included; people like Lewis Wolpert with his French Flag models, Eric Britten and Roy Davidson with their models of how to switch on different cassettes of genes in different tissues, Michael Ashburner with his models of how hormones control gene expression, Anne McLaren for her exciting work on germ cell development and sex determination, Klaus Sander investigating insect embryogenesis, Peter Lawrence with his discovery of the compartmental organisation of segments, to name but a few.

This book made me realise that what makes us interested in a subject is a very personal thing and those who influence thinking at a specific point in time are sometimes remembered and sometimes their influence gets forgotten on the way. I wonder who of those currently pushing back the frontiers, and included in this book, will be remembered in 20 years? I suspect it will depend who you ask and exactly what everyone is excited about at the time.

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