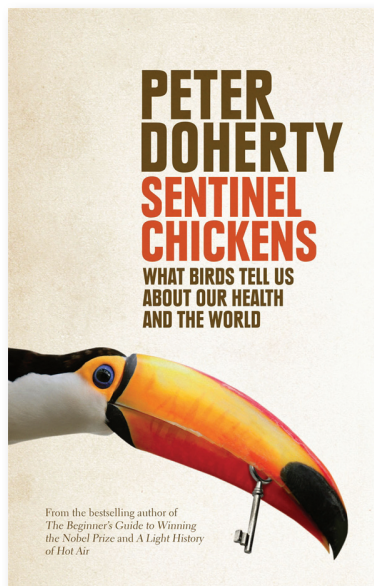


Book Review



Sentinel Chickens – What birds tell us about our health and the world

Peter Doherty. 2012. Melbourne University Press. Paperback, 231pp. ISBN 978-0-522-86110-5. RRP \$29.99

In 1996, veterinary pathologist Peter Doherty won the Nobel Prize for Physiology or Medicine for his work on how T-cells of the immune system protect against viruses. He was named Australian of the Year in 1997.

Sentinel Chickens is his third book after *The Beginners Guide to Winning the Nobel Prize* and *A Light History of Hot Air*. Here he takes the reader on a journey around the globe, through time and into the realm of two of his passions, pathology and ornithology.

We join the author on a bird watching trip off the coast of North America in 2010, from which he came back to the news of the oil spill in the Gulf of Mexico following the explosion of the platform *Deepwater Horizon*. Peter Doherty tells us how he became a bird spotter late in his life, after he had already worked for almost 50 years on immunology and virus pathology. Being aware of the often devastating pandemics bird-borne diseases can have on humans, he was now seeing the effects humanity has in turn on bird species and their populations. He decided to write *Sentinel Chickens* in the hope that he would entertain, inform and maybe even challenge the reader to take action on behalf of the environment.

After an introduction on the physiology, especially the sophisticated respiratory system, of birds, the author moves on to the early times of virology and bacteriology research and how chicken eggs came to be the incubator of choice to propagate and investigate these pathogens. The titular *Sentinel Chickens*, valiantly patrolling in open cages exposed to mosquitoes are members of the first bird species the author highlights as an example of how bird species inform us on changes in our

environment. In Australia, these simple chooks are still used to monitor the spread of Murray Valley encephalitis virus (MVE) via frequent tests of their blood for antibodies against the mosquito-borne virus. But this story is only the starting point of the book, from which the author branches out into other avian-related research in as diverse fields as oncology and climate change. In each chapter he also explains the history of the research at hand, often with a personal anecdote to tell. Many of the author's colleagues were important in identifying clues on how pathogens moved from animals, not only birds, to humans and the author introduces us to a number of them (that is, the pathogens and the colleagues working on them).

Later in the book, Doherty discusses how diseases like human and avian influenza, SARS, malaria and psittacosis often are helped in this jump from animal to human by their close proximity in regions like south-east Asia. Humanity in turn, through the effects of anthropomorphic climate change, habitat fragmentation and by limiting natural food resources is putting ever increasing pressure on animals and is pushing species, birds among them, closer to extinction. The author reminds the reader of recent cases where human carelessness has led to the extinction of a previously common bird species, for instance the Passenger Pigeon in the USA and the Paradise Parrot in Australia, both of which went extinct in the early 20th Century, despite having been common and numerous only years before. Considering the important role birds play in our environment, e.g. in cleaning up animal carcasses, reducing insect pests, moving soil, pollinating plants and spreading seeds, Doherty concludes the book with a passionate call to protect not only the world of birds, but the “web of life” itself. With this book, he manages to show to the reader how interwoven and tied human fate really is to the environmental changes birds help us understand.

While *Sentinel Chickens* is an informative and entertaining read suitable for everyone interested in birds and the pathology of human and avian diseases, I often felt that the author was trying to do too many things at a time. Despite being an amateur bird person with a background in molecular cell biology, I sometimes had difficulties following the narrative. The author intersperses information on e.g. the molecular workings of a certain virus with the history of scientists having done research on that virus, followed by a statement how all that relates back to the bird world.

However, I like the concept of the book very much as it contains many anecdotes and interesting information. Furthermore, the appendix contains numerous notes to each chapter as well as a detailed list of references and suggested further reading. Taken together, this book is a good read for layperson and specialist alike and anyone who would like to know more about how modern pathogens, birds and humans are connected to each other.

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