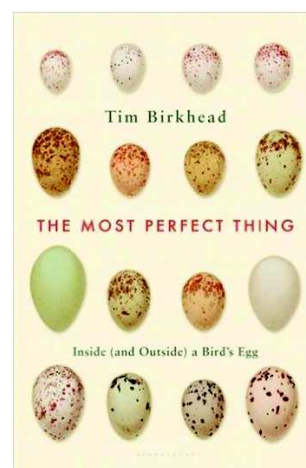


Book Review**A Most Perfect Read****A Review of:****The Most Perfect Thing: Inside (and Outside) a Bird's Egg.****By Tim Birkhead****Publisher: Bloomsbury USA****ISBN: 13:978-1408851258****Price: Rs.838**

A Most Perfect Thing is an inspiring mixture of science, history and adventure. The author, Tim Birkhead is a Professor of Zoology in the University of Sheffield in the UK, best known for his research on sperm competition and sexual selection in Birds. His previous book that I have read (he has written a dozen) *Bird Sense: What It's Like to Be a Bird* had already introduced me to his remarkable ability to combine information and inspiration. The present book carries on in that tradition and while it is on a more narrow topic (just the eggs of birds as opposed to everything about birds), it brings together more history and context – context in which science is practised and knowledge is produced. *The Most Perfect Thing* is a rigorous description of the science of Oology, the study of bird's eggs. It tells you how the egg acquires its shell, how the mother acquires the calcium needed to make the shell, how and why are eggs shaped and coloured as they are, what is albumin and what is yolk, how are they made and of what use are they to the developing chick, how are the real eggs, i.e., the oocytes, the cells that give rise to the next generation, made and how are they fertilized and finally how and why are eggs incubated. As one may expect, there is great variation among different species of birds (there are some ten thousand species) in the answers to each of these questions. Finding the logic of this variation is the stuff of the science of behavioural ecology and Tim Birkhead is as good a practitioner of this science as any I know. To add to the scientific rigour and to facilitate the book to be used as text book and research monograph, we find Notes, Bibliography, Glossary, Common and Latin names of



all birds mentioned in the text, Index and superb photographs.

Birkhead does not narrate his science in vacuum (as the science is not produced in vacuum) and he by no means makes it dry or heavy. The book is replete with accounts of history, adventure, anecdotes, experiments gone wrong, people gone crazy ... and thus gives a realistic account of the process of science. The first chapter for instance provides a fascinating account of egg collectors and their often eccentric ways. We learn that the men who climbed the cliffs of Bempton to collect eggs came to be known as 'climbers' (what a beautiful name!), shortened from 'climbers' by the Yorkshire dialect. We also learn that Bempton is a little village on the east coast of England from whose cliffs eggs have been collected since the late 1500s. The many stories of how we came to understand the logic behind the shapes, sizes and

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colours of eggs, the many false starts and flip-flops between different theories are all told in a most entertaining way. Birkhead's story stretches all the way from Aristotle to the present day and meanders through the ages, spending more time in the 16th, 17th and 18th centuries than you might imagine. I had no idea for example that William Harvey (1578-1657), famous for stealing cadavers for his research, and studying blood circulation, was so preoccupied with bird eggs. An unexpected but very important message that comes through concerns the role of amateurs in the production of scientific knowledge. The distinction between 'scientists' and 'amateurs' was blurred in the past and I will wager that it will once again blur in the future, when access to information, ease of communication, self-publishing, the rise of crowd sourcing and crowd funding and the phenomenon of Wikipedia, all powered by the internet, combine to make both the production and the consumption of knowledge truly decentralized and democratised. What struck me even more than all of the above is Tim Birkhead's personal story, about which we hear little until the very end of the last chapter. This story contains many points of interest, worthy of deep reflection.

First, Birkhead has been engaged in a long-term ecological study of a seabird, the common guillemot, on Skomer island off the coast of Wales, for over 40 years. How many of us have the motivation, patience and self-confidence to remain faithful to one topic of research for 4 decades? I wonder.

Second, his funding (from the Countryside Council for Wales) was cut in 2013 – the new bosses

of this organization did not think this research was important enough! This incidentally coincided with fierce storms that killed some 40,000 seabirds. Even that did not make the managers of tax payers' money change their mind. Luckily, his University bailed him out for a year to continue his long-term study uninterrupted, assess the damage caused by the storms and look for new sources of funding. How many of us are blessed to work in institutes that have such enlightened heads and how many of us as heads of institutions would display the courage and wisdom to do the same?

Third, Tim Birkhead took his job of raising funds seriously. He teamed up with an artist and created an exhibition depicting the birds and their colonies and showcased his research and the benefits of long-term ecological studies. How many of us would have the courage and inclination to do something like that, when it is so much easier to reinvent oneself and do the kind of research that funders are willing to fund?

Fourth, crowd funding indeed poured in and the future of his long-term research on guillemots is now safe. Can we expect anything like this from our public and philanthropists?

Fifth, and to me the most striking fact of all, is that all this fuss was about a mere \$19000, annually. This is roughly equivalent to about 12 lakh Indian Rupees. How many of us scientists in India have DST and DBT grants of this or higher magnitudes and what do we produce by way of our science? I wonder sometimes.

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