

The migration of birds has always been a source of wonder. The earliest reference to birds in European literature comes in Homer's *Iliad* where he compares the clamour of migrating cranes and wildfowl to the movement of a great army. Cranes appear, too, in the first chapter of Bernd Heinrich's new book, *The Homing Instinct*, in this case a pair of sandhill cranes returning to the same small boggy patch in the vastness of Alaska, and arriving punctually on April 28, after a journey of some 5,000 kilometres from Texas or Mexico. Heinrich is there to greet them and watch the pair re-establish their home and their relationship, which they do by making music and dancing together. How could we fail to feel some affinity with this? And how could we not be amazed by the navigational systems that make these homecomings possible?

This very readable book is in large part a popular account of what science can now tell us about the cognitive mechanisms and biological explanations behind such migratory feats. Birds feature strongly, of course, as the most conspicuous and familiar examples. We still celebrate our seasons, after all, with the annual arrival of marker species like the cuckoo, swift and swallow (though, disappointingly for a British reader, none of these is dealt with in the book, despite much recent and revealing research into their migrations). We are, however, given many other arresting examples of the ways birds use sensory clues from the sun, moon and stars as well as from magnetic fields to achieve performances that for centuries seemed impossible – because we used our own capacities as the standard. We are also invited to marvel at the ultra-mara-

# Many happy returns

JEREMY MYNOTT

Bernd Heinrich

THE HOMING INSTINCT

The story and science of migration  
352pp. HarperCollins. £16.99.  
978 0 00 759405 4

thoners of the bird world (perhaps particular favourites of Heinrich, since he, too, excelled in that sport) – trans-global migrants like the arctic tern (travelling from one pole to the other) and the bar-tailed godwit (from Alaska to Australia non-stop). The physical cost of such journeys only serves to emphasize the strength of the migratory instinct. Godwits use up not only the body fat they have laid down before departure, but also a considerable amount of protein, which comes from muscles and organs, including every part of the body except the brain, the organ that drives the birds onwards over some 11,000 kilometres of open ocean without food, water or sleep.

We learn about the homing instincts of many other creatures, each with its own twist to the story: bees make a “beeline” back to the hive and desert ants an “antline” to their holes in the sand (to minimize the time spent in the searing heat of the desert surface); butterflies can travel thousands of kilometres, most famously the monarch butterflies that winter in their shimmering millions in dense fir

groves near Mexico City (though in this case, the ones that travel back to New England are not the ones that left); eels also go on a one-way journey to spawn and then die in the Sargasso Sea (but why do they leave home at all?); grasshoppers and locusts make massive migratory movements, co-ordinated by what seems to be a crowd consensus; sea turtles return to the same beaches they were born on after roaming the oceans for twenty years or more; and aphids, ladybirds, dragonflies, moths and amphibians all perform their own versions of the same miracle.

All this makes for a fascinating narrative, which Heinrich tells with great ease and verve. But alongside this scientific story is a human one. Heinrich makes frequent reference to human parallels in behaviour, responses and even in emotions, though he accepts that he is then heading into tricky metaphorical territory. He talks of attachment, love and belonging. He fears, though, that human evolution is itself changing our relationship to place. Our very success is destroying our grounded sense of home as a particular locality defined by its natural features and wildlife. Population expansion is turning us into an urban species, and our technological advances are making the whole world our interconnected but distanced home. We are severing ourselves from the Earth, physically and psychologically.

Heinrich is also telling a personal story, in which he starts by welcoming the cranes home

and ends by returning to the area of Maine where he grew up. These three homing themes – the animal, the human and the personal – are intended to reinforce one another, but the strands are loosely twined and none of them is quite satisfactory on its own. A purely scientific popularization would probably have needed more reportage from the front line of research, where things are moving faster than the list of “further reading” at the end perhaps suggests. A conservation manifesto would develop the environmental arguments further and ponder their political implications. Our problem, Heinrich says bluntly and without elaboration, is “massive overpopulation” – well, and so? By contrast, the autobiographical material is rich and detailed but begins to ramble towards the end, so that the last five “chapters” (irritatingly, they are not numbered) could probably have been reduced to just one or two, thereby sharpening their relevance and impact. The book's subtitle suggests that Heinrich is trying to cater for everyone, but does he instead risk becoming a victim of his own facility and breadth of interests?

These defects are well outweighed by the merits of the book, however. Heinrich is not only a distinguished biologist; he is also a natural storyteller. His many past publications include such bestselling titles as *Mind of the Raven* (2007), *The Snoring Bird* (2008), *Winter World* (2009) and *Life Everlasting* (2013), and his zest for authorship seems to continue undiminished. There can be no one who would not find something new and interesting in the present work, or who would fail to be inspired by it to learn more, to notice more and to care more.