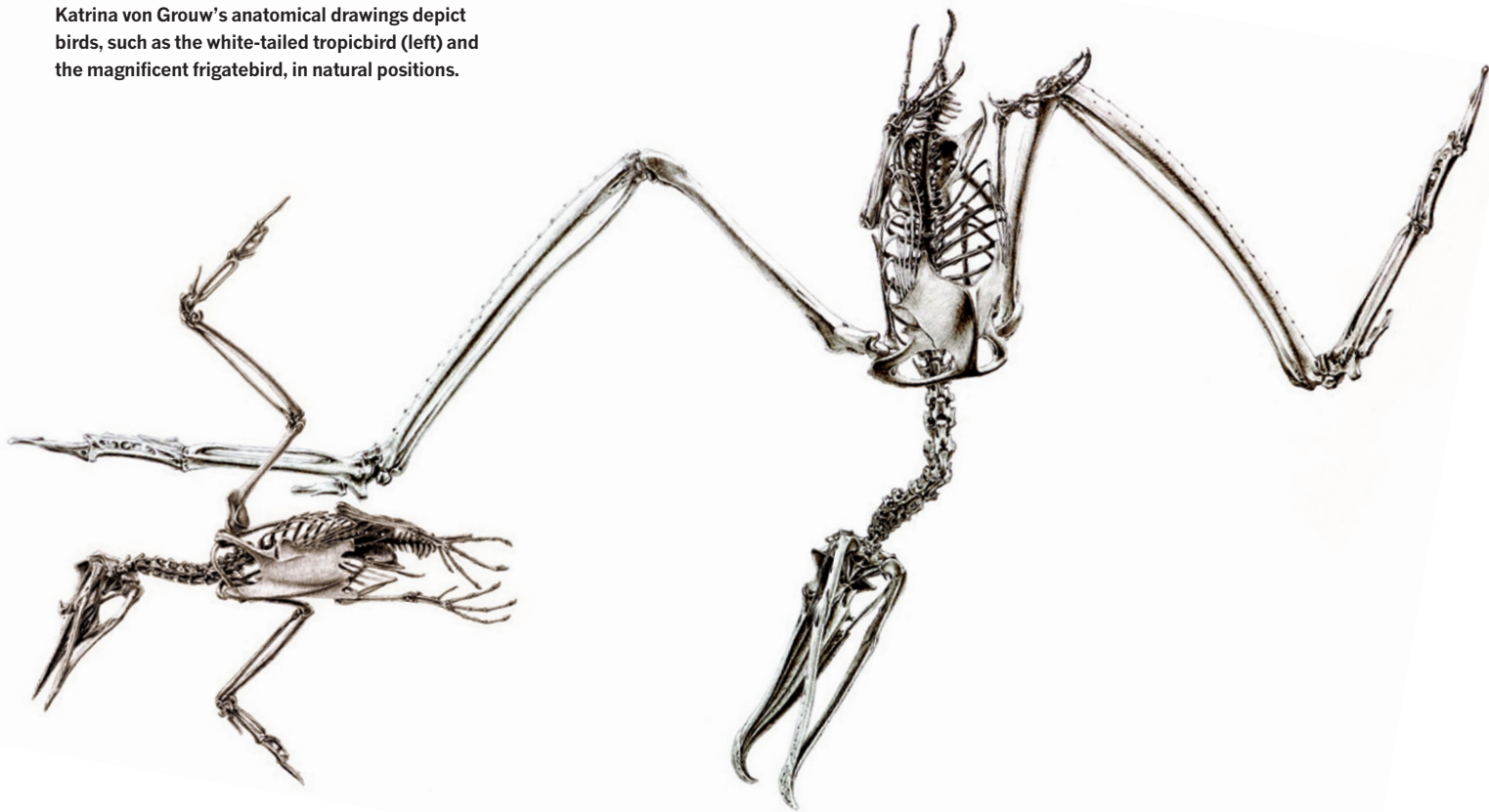


Katrina van Grouw's anatomical drawings depict birds, such as the white-tailed tropicbird (left) and the magnificent frigatebird, in natural positions.



ANATOMY

The bird stripped bare

Alison Abbott enjoys an exquisite tour of skeletal ornithology.

“A convergence of art and science; accessibility and erudition; old and new — without compromise and without apology.” This is how neo-Renaissance ‘birdwoman’ Katrina van Grouw introduces her coffee-table book *The Unfeathered Bird*. And that is exactly what you get.

The book displays van Grouw’s detailed anatomical drawings of bird skeletons and musculature — nearly 400 of them, representing 200 species — alongside her witty and informative text describing each specimen’s adaptation to its environment. A bird’s appearance and behaviour, she explains, influence and are influenced by its skeleton — such as the bony spurs that some have on their wings, used for fighting.

Van Grouw, a qualified natural history illustrator, spent a number of years as a curator of bird specimens at London’s Natural History Museum and taught herself the necessary science to understand her subjects thoroughly. Within a few sentences she can chastise professional ornithologists for their slack terminology, forgive them and deliver her own jargon-free texts that

make concepts such as flight mechanics and evolution appear obvious. For example, she cleverly explains bird anatomy with reference to human anatomy. It is easier to visualize the three major wing sections as evolutionarily equivalent to our upper arm, forearm and hand; a bird’s highly manoeuvrable ‘thumb’ prevents stalling at low flying speeds.

The Unfeathered Bird may be too unsystematic to suit everyone, but that is part of its charm. We learn that genetic analysis unexpectedly confirmed suspicions that New World and Old World vultures may not be related, even though they look and behave similarly — an example of convergent evolution. Carrion birds need to cover large distances with minimum energy expenditure because the carcasses on which



The Unfeathered Bird

KATRINA VAN GROUW
Princeton University
Press: 2012. 304 pp.
£34.95, \$49.95

they feed are often scattered. From different starting material on different continents, evolution solved the problem with the same large, highly specialized wing structure. Van Grouw’s focus on the skeleton rather than on external appearance gives the book a special power.

We also learn that not all kingfishers fish, but that hummingbirds do indeed hum. We learn how woodpeckers seemingly defy gravity while boring holes in vertical tree trunks, why there is no reason to pity penguins and that petrels projectile vomit spectacularly onto predators — and nosy ornithologists.

Van Grouw’s book was 25 years in the making; surprisingly quick, considering the work involved. An international list of friends, colleagues, farmers, conservationists — and the occasional taxidermist — donated dead birds for her (and her taxidermist husband) to pluck, skin and boil down to their skeletons. And draw — exquisitely. ■

Alison Abbott is Nature’s senior European correspondent.

K. VAN GROUW