

scientists, with notable exceptions, have often received no credit for their work. Furthermore, the work of those who collaborated with male relatives has often been subsumed into their brother's, father's or husband's body of work — think of astronomer Caroline Herschel or chemist Marie-Anne Lavoisier. In spite of mighty efforts to rectify the situation, such as Wikipedia's WikiProject Women Scientists, it still exists.

TENUOUS CLAIMS

But the fact that Marić was unlikely to be credited doesn't mean that she contributed, and Esterson presents the counter-argument. He tracks down and analyses, exhaustively, each source's sources. He finds, for example, that Einstein's use of “we” and “our” couldn't have referred to a real collaboration for several reasons: Marić herself seems not to have referred to special relativity, didn't repeat the pronouns in her letters and probably didn't have the grounding to contribute to the subject. Esterson's narrative is detailed, but also repetitive and

“The fact that Marić was unlikely to be credited doesn't mean that she contributed.”

confusing, partly because he examines each reuse of particular sources. And because he invariably finds all advocates of the theory that Marić contributed to

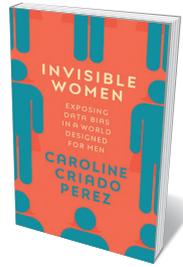
Einstein's work wrong, his argument seems contentious, even obsessive.

Credentialed historians including Gerald Holton have likewise dismissed the claims about Marić's contribution. But credentials seem hardly needed, because these claims are so tenuous. Those quoted by Esterson read like fan fiction, citing hearsay from relatives, over-interpreting facts or reporting conversations and events that no one but Marić and Einstein could have known. No evidence exists either way.

Somewhere under the noise and dust is the real person whom Cassidy's evidence shows: an intelligent woman who worked hard to get an intellectually demanding education and suffered deep personal blows on top of the deeper bruise of being the wrong gender at the turn of the wrong century. Our century needs to attend to her. The deck is still stacked against female scientists. A Mileva Marić coming of age in the twenty-first century would still face lack of credit — and it would be only one in a long list of barriers and biases. ■

Ann Finkbeiner is a freelance science writer in Baltimore, Maryland, and author of *The Jasons*. She blogs at www.lastwordonnothing.com
e-mail: anniefk@gmail.com

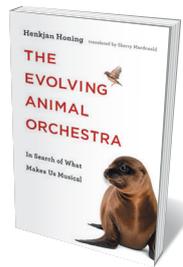
Books in brief



Invisible Women

Caroline Criado Perez CHATTO & WINDUS (2019)

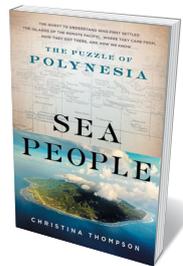
We live in a vast welter of data — and it is riddled with gender bias. So argues journalist Caroline Criado Perez in this pointed analysis, revealing how using men as the default in research has serious real-world impacts on women. In areas as diverse as medicine, labour and sanitation, many findings ignore half the population because of bad trial design (anatomically incorrect crash-test dummies, male-only drug-testing), algorithmic bias (say, in translation software or image data sets) or simple erasure of women from the historical record. A powerful call to bust the myths and bridge the gap.



The Evolving Animal Orchestra

Henkjan Honing (transl. Sherry Macdonald) MIT PRESS (2019)

In his 1871 *The Descent of Man*, Charles Darwin speculated that all animals might be biologically capable of perceiving musical cadence and rhythm. Inspired by the concept, musical-cognition researcher Henkjan Honing launched a quest to test it. Along with exploring musicality studies on species from rock doves to koi carp, he lab-hops to learn how male canaries court with thrilling trills; how zebra finches use the entire sound spectrum to gather information; how a California sea lion perceives beats (notably, in Earth, Wind & Fire's 1979 song 'Boogie Wonderland'); and more.



Sea People

Christina Thompson HARPER (2019)

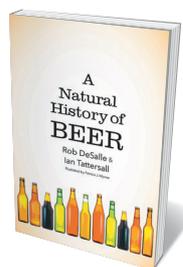
The Pacific Ocean covers more than 30% of Earth's surface. How did early Polynesians — united by a language family, culture, skills — navigate such vastness, and colonize islands as far-flung as Hawaii and New Zealand? In parsing that prehistory, Christina Thompson found herself piecing together biological, archaeological, geographical, anthropological and linguistic evidence from oral traditions, early European accounts and recent science. Her outstanding study brims with detail, not least on Polynesian wayfinding — holistic expertise based on myriad 'readings' of bird, cloud, light and wave behaviour.



War Doctor

David Nott PICADOR (2019)

For more than 25 years, surgeon David Nott has lived periodically “in a liminal zone where most people have neither been nor want to go”: fields of war from Afghanistan to Bosnia. His memoir interweaves bold surgical feats on these sojourns in hell with his own psychological journey, a chronicle equally soaked in blood and insight. Now co-founder of a foundation training other physicians in this specialized work, Nott remains an important witness to the haunting human price of that modern triad: geopolitical instability, poor governance and ever more powerful weaponry.



A Natural History of Beer

Rob DeSalle and Ian Tattersall YALE UNIVERSITY PRESS (2019)

Curatorial eminences Rob DeSalle and Ian Tattersall serve up a potent scientific brew in this study of beer, explicating the underlying chemistry, neuroscience and culture with gusto. Crafted as long ago as the seventh millennium BC (in Jiahu, China), the grain-based tipple provides rich pickings, from the intricacies of barley biology and the pedigree of hops to the light absorption in a freshly poured glass of lager, the brain shrinkage behind a hangover headache and possible beer family trees. A marvellous paean to the pint, and to the researchers probing its depths. **Barbara Kiser**