Books & arts

DAVID GRAY/AFP VIA GETTY

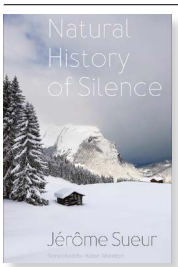
A diver checks the health of corals on the Great Barrier Reef, Australia.

Humanity's noise is the natural world's enemy

People have profoundly altered the planet's soundscape. It's time to quieten down. **By Alix Soliman**

"Shhh!" This is the demand that eco-acoustics researcher Jérôme Sueur makes of humanity. The racket of technology – emanating from ships, aeroplanes, machinery and more – permeates even the remotest corners of the planet.

Sueur explores the impact of this ever-present hum on the animal world in *Natural History of Silence*. He offers rich descriptions of the sonic lives of several species, such as the rhythmic mating chirps of cicadas and the crackling and popping sounds produced in coral reefs. When human-made noise drowns out nature's symphony, ecosystems become disrupted, Sueur argues. For instance, experiments around Moorea Island, French Polynesia, show that motorboat noise upsets free-swimming juvenile corals, which rely on reef sounds to find a suitable place to settle. In quieter, protected areas, coral attraction to reefs is much higher (D. Lecchini *et al. Sci. Rep.* **8**, 9283; 2018).



Natural History of Silence
Jérôme Sueur
Polity (2024)

Anyone new to the science of sound will be able to learn its foundations in this book. Sueur explains how animals create, use and perceive sound and how researchers have used this knowledge to understand wildlife behaviour. Tucked between travelogue-style chapters and wandering philosophical ruminations, there is a primer on key terms and theories, such as

KURT STRICKER/GETTY

Birds (such as the white-crowned sparrow, pictured) need to sing louder to be heard over the noise of nearby traffic.

the acoustic niche hypothesis, which posits that each species has a unique acoustic space to enhance communication with its peers and limit sound competition from other species. The book also includes an abridged evolutionary history of how animals developed the ability to send and receive vibrations.

Be silent and tune in

Sueur's thesis is this: silence is a crucial resource, like food or water, that species compete for to survive. "Making sound is an essential part of being alive," he writes. But humans need to "make sure we are not more alive than others".

Sueur offers practical advice on how to do that. A student of writings by naturalist John Muir and poet Walt Whitman, he encourages readers to seek solitude in a remote location to grasp the profound value of turning the noise dial down. Be silent and tune in, he writes, for a naturalist's meditation focuses on the external rather than internal world. The book starts with one such excursion — a winter walk in the Chartreuse Mountains in France — where, Sueur writes, "for the very first time, I experienced silence in a natural world teeming with life".

The book's central theme revolves around the concept of *Umwelt*, a word used by German biologist Jakob von Uexküll to refer to the sensory world unique to each species, shaped by its sensory organs. An animal's *Umwelt* is the limited slice of the world it can perceive and defines its immediate environment. Sueur suggests that constant noise disrupts many species' perception of the world and hinders people's ability to have empathy for others. Because noise "gets in the way", it secludes us from the natural rhythms of the ecosystem.

The Risoux forest, a protected area in the Jura Mountains that straddles the border between France and Switzerland, is a prime example. There, hazel grouse (*Tetrastes bonasia*) and Eurasian pygmy owls (*Glaucidium passerinum*) fly, and so, too, do planes in a "physiological and psychological assault which is repeated every five minutes", Sueur writes. "Up there, the airline companies, the pilots, the tourists, sometimes including ourselves, are in the process of contaminating an entire forest without realizing it and are passing by without even a gesture of apology."

> **"Globally, wildlife communication changed during lockdowns."**

The pandemic pause

Prominent throughout the book are the ideas of Bernie Krause, a musician and soundscape ecologist. Krause divides soundscapes into 'biophony', which includes all of the calls and movements of wildlife; 'geophony', such as breaking waves and erupting volcanoes; and 'anthropophony' — all human-made sounds. 'Natural silence' occurs when the ruckus of humanity is absent and animals "can communicate unimpeded", Sueur writes.

When the COVID-19 pandemic abruptly halted human activity, noise-monitoring organizations in France recorded a 60–75% drop in sound levels in cities such as Grenoble and Lyon (P. Munoz *et al. Noise Mapp.* **7**, 287–302; 2020). Globally, wildlife communication changed during lockdowns. Fish and dolphins off the coast of New Zealand extended the range of their calls by 65% owing to a sharp reduction in boat travel. White-crowned sparrows (*Zonotrichia leucophrys*) in California sang quieter when they did not have to compete with traffic noise. But, when humans emerged from their homes, so did "anthropophony and its toxic effects on natural systems", he writes.

Sueur calls for a greater awareness "of the harmful effects of noise and of the need to preserve zones where noise is not welcome", effectively proposing a global network of 'silent sanctuaries'. The book, thus, reinforces an imaginary dividing line between humanity and nature — an approach to conservation that has frustrated contemporary environmentalists who seek more holistic solutions that involve local and Indigenous communities.

To encourage readers to act, the book could have included stories about successful no-fly zones or marine protected areas — where communities are working to address the problem. But the focus on solutions is limited. Instead, his winding and verbose prose often carries a tone of resentment, which could repel the people he wants to hush.

Alix Soliman is a *Nature* intern based in Washington DC.