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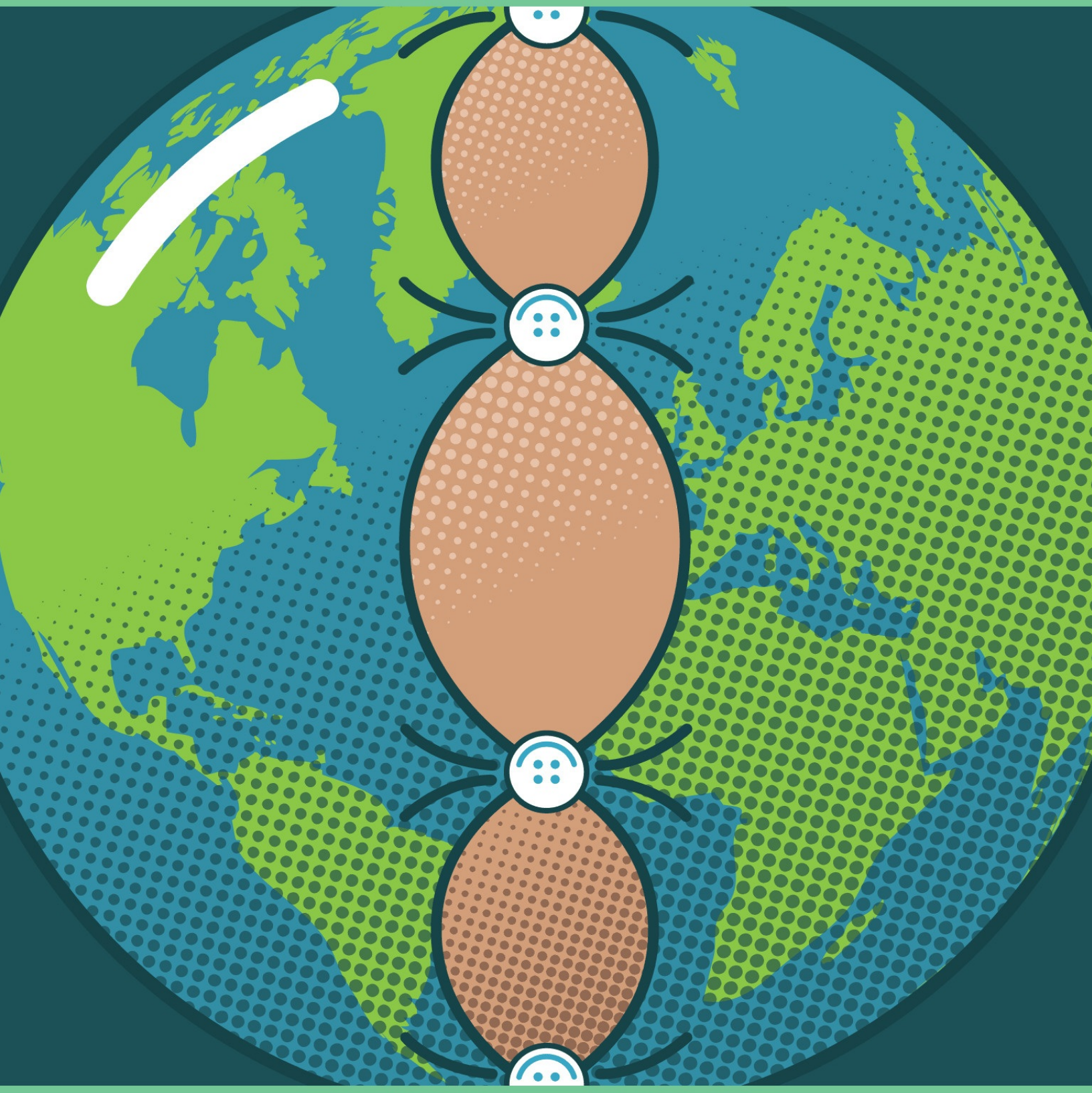

JUNE 2015

Planet Earth

Contributoria

June 2015

Soundscape ecology: preserving the sounds of wildlife

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There has never been a better time to explore the world of sound than now. Advanced technologies in sound recording, playback and transmission as well as the advent of digital media have contributed to the prominence of a new auditory culture. Thriving innovations that appear in the area of music technologies have not only made a considerable impact on the deepened reception of sounds among listeners, but they also have affected listeners' perception of reality. The auditory turn in contemporary culture has been associated with the emergence of new, viable fields in the world of art as well as new disciplines of science, which are situated among the social sciences, politics and ecology.

The unique acoustic imprint that is the soundscape of a given place determines its nature. "Soundscape" is a term coined by the Canadian composer and theorist R. Murray Schafer, considered to be the father of acoustic ecology. Schafer defined the soundscape as the "auditory equivalent to landscape". Thus the soundscape is for the ears what the landscape is for the eyes: the collection of all sounds across a certain environment, regardless of what is reflected in natural or human activities. In his works, Schafer perceives the world as a macrocosmic musical composition. He has expressed interest in characterising natural sounds that could be used to make music. Meanwhile, Schafer has been concerned about growing noise pollution and has pointed it out to be a world problem.

A new movement

The work of Schafer and the research group established by him, the World Sound Project (which consists of an international, interdisciplinary community of scientists, artists, activists and engineers), has given birth to interdisciplinary soundscape studies and has etched the foundations for acoustic design. Schafer has also proposed a series of exercises that serve to awaken aesthetic sensitivity towards the world of sounds, increasing sound perception and teaching the techniques of listening, for example, through soundwalking.

Schafer and the World Soundscape Project gave the foundations for modern studies on broadly understood sonic culture and sound ecology, and they have also contributed to the creation of a new movement of a clearly countercultural and anti-capitalist nature.

"The soundscape movement expressed itself not only in its opposition to the destruction of the sonic environment, but it also formulated concepts for a new model of life. This alternative lifestyle – contrary to the dominant, rushed, visual one – was supposed to consist of calm, observant contact with nature and becoming engrossed in the world of sounds, which would cause a greater familiarity with and discovery of the world," claims Dr Marcia Epstein from the Faculty of Arts at the Department of Communication and Culture at the University of Calgary.

Bernie Krause's pioneering archive

Present-day examples of acoustic environments preserved in their primordial state appear less and less frequently. However, these places still can be found in equatorial or subtropical forest habitats. Natural soundscapes are shrinking at a disturbingly quick rate. Climate change and commercial development are the primary contributors to the contamination of the sonic environment.

“As a result of the devastation of the acoustic environment and growing noise related to human activity, the natural harmony in nature is being disrupted. Animals cannot communicate correctly; as a result, many species have difficulty finding food and mates, and some of them perish. These changes are contributing to the reduction in the number and diversity of animals in natural landscapes,” says Epstein.

The best-known evidence of irreversible and devastating changes that have happened in the last decades to the acoustic environment is Bernie Krause’s unique Wild Sanctuary Audio Archive collection. This American bio-acoustician, considered to be a pioneer in the emerging discipline of soundscape ecology, has spent decades discovering and recording sounds of the wild travelling around the world.

According to Krause, every living organism has a voice and every place on the Earth has a unique sound signature. The sounds that emanates from healthy wild habitats can be compared to a musical composition of cohesive structure. Bernie Krause repeatedly says: “While a picture may be worth a thousand words, a soundscape is worth a thousand pictures.”

Before Krause became a world-known researcher and recorded sound, he had been a successful musician specialising in synthesized electronic music. The turning point in his life was work on a commissioned project for Warner Brothers in California in 1968. In Muir Woods, he discovered the rich sonic tapestry of music in its purest form: the voices of birds, mammals, amphibians, reptiles, insects and ambient sounds such as running water, the rustling of leaves, whistling wind that originated from natural landscapes. This all was a great “Symphony of Life”.

Today, Krause is considered to be a pioneer in soundscape recording and one of the world’s leading experts on natural sound. His unique collection, which includes more than 4,500 hours of recordings of over 15,000 species, attracts attention to the shrinking biodiversity of the world’s ecosystem. Of the 4,500 soundscapes he had recorded for 47 years, about half have been lost because of wild habitat devastation, climate change or because they have been contaminated by human-generated noise. Unique sounds of the wildlife preserved in Krause’s archive remain an endless source of inspiration for many musicians and also the San Francisco Ballet.

Krause is also the founder of Wild Sanctuary, an organisation dedicated to recording, archiving and researching marine and terrestrial habitats around the world. “Being home to Bernie Krause’s audio archive and the base-station for our efforts in research, public outreach, and field work, Wild Sanctuary’s mission, has always been to explore, understand, and share the sounds of the natural world. Making wild soundscapes tangible within the culture, for science, art, and personal expression has moved the Organization toward a more fully encompassing, endeavour, now centred around presenting, protecting, and preserving these sounds,” says Katherine Krause of Wild Sanctuary.

Soundscape ecology

Soundscape ecology is a new interdisciplinary field in ecology, which focuses on studying and documenting the biophony [the sounds created by all non-human living organisms] of natural habitats and also proposes a series of activities contributing to protection of the natural soundscape and increases in social awareness of these matters. It also advocates the preservation and improvement of sound environments.

“In the case of natural soundscapes, preservation amounts to preservation of wild habitats. The sounds of weather, wind, water, trees, grasses, insects, birds and animals are all layered in a natural soundscape

like instruments in an orchestra, and we are only beginning to understand how the different elements form communication patterns. For example, the call of a particular bird may signal to an animal that a predator is near, or the buzz of an insect might indicate to a bird that its favourite berries are ripe," says Epstein.

Epstein points out that human soundscapes also need preservation: "The languages of aboriginal peoples are being lost because no young people are learning them. Traditional styles of music and the instruments that play them - as well as songs in ancient languages - are also vanishing."

Ecology and art

It is conventional wisdom that art is a reflection of social moods, worries and fears. The work of many artists reveals anxiety about the earth's ecological situation. The artistic forays inspired not only by the beauty of nature but also fear about its condition are visible in the music of such bands as Sigur Rós or Radiohead.

The music of nature has become a crucial source of inspiration for artists representing the ambient genre (Ambient 2: The Plateaux of Mirror by Harold Budd and Brian Eno) or those whose style remains in some relation with this genre (Enigma's The Dream of the Dolphin).

In A Wild Sanctuary, a 1970s album recorded by Krause and Paul Beaver, became the first album ever to use natural soundscapes as a component of orchestration. It and four other albums recorded by this duo helped define the beginning of the New Age and electronica musical movements.

Present-day field recording raises more and more interest among ecologists and experimental musicians looking for new ways of expression. "Field recording" is a concept inextricably tied to the acoustic environment. It may pertain to both the recording of urban spaces as well as nature. Presently, field recording is considered to be a unique musical genre that results from the intersection of ambient, avant-garde, musique concrète and experimental.

"Field recording is a kind of observation or sensing the environment. It can provide material for electroacoustic compositions, while soundwalking can be a form of composition or gathering inspiration for composition. Field recording and observation can also provide inspiration for built structure that produce sound or sound art can be produced for field environments," explains Dr Andrea Polli, board member of the American Society for Acoustic Ecology.

Francisco López is one of the leading avant-garde experimental musicians and sound artists. His most famous work, La Selva (1998), in composed entirely of field recordings from tropical rainforests in Costa Rica.

Nature Soundmap

The experiments based on environment recordings are presently generating great interest among fans of alternative music. Die-hard fans on the web have created online communities. Nature Soundmap is an online platform that offers an enjoyable and interactive way of exploring the natural sounds from all over the world, through a combination of high-quality field recordings with the latest satellite imagery. So far, more than 90 nature sound recordists have contributed sounds from 81 countries to this project. The founder of Nature Soundmap is Marc Anderson, who has been dealing with field recording since 2010.

“Over the years as a nature photographer, I’ve often searched out and found pristine places which are visually beautiful. However, in time I came to realise that the sounds of these wild places are equally stunning, and I began to look into how I could capture audio in addition to the visuals,” says Anderson, who so far has released 29 albums from six countries (Australia, Malaysia, Nepal, Spain, Sri Lanka and Thailand).

Therapeutic functions of natural sounds

Recording and carefully listening to environmental sounds allow us to heed more attention to more details of the surrounding world. Discovery of the soundscape is becoming part of a cultural experience. Exploring and recording the sounds of an environment is also more often perceived as a fashion and lifestyle philosophy because it developed in parallel to the rise of the Slow Movement.

Immersion in the sounds of wildlife not only arouses the imagination, but also has therapeutic functions. “Research is now indicating that natural sounds like rain, running water and songbirds are calming and healing for the human nervous system because we evolved hearing them. Music has also been used for healing in all ancient and aboriginal cultures - there’s a very rich history involved,” says Epstein, who is also an expert in ethnomusicology and music therapy. She mentions that healing qualities in music depend on a lot of variables, such as culture, personal experience and taste, and one’s state of mind.

Turning one’s attention towards the natural world, listening to music with the sounds of nature and soundwalking not only awakens one’s appreciation of the world of sound, but also allows one to appreciate reality in a deeper way as a more multisensory experience. Such activities have led to an increased awareness of our own acoustic behaviours, as well as our collective responsibility for the natural environment.