

Annie Lewandowski interviewed by Theresa Wong

Annie Lewandowski is a composer, performer, and senior lecturer at Cornell University in Ithaca, New York. In 2017, she began researching the evolving songs of humpback whales, which has found its way into her creative practice. **Theresa Wong** is a composer, cellist and vocalist based in the San Francisco Bay Area. The two have collaborated together in varying situations that involve improvised music and song forms since 2007. They can be heard in trio with multi-instrumentalist Fred Frith on the 3 CD box set [All Is Always Now - Fred Frith Live At The Stone](#) (Intakt), and both composed pieces for Luciano Chessa's project, [Orchestra of Futurist Intoners](#). Lewandowski's songs can be heard under her moniker of [powerdove](#) and include the album [Bitter Banquet](#), (*fo'c'sle*) performed along with Wong, Russell Greenberg and David Yearsley. This conversation took place over Zoom in February 2021.

Theresa Wong: How did you get into whale songs and how did you meet bioacoustics researcher Katy Payne?

Annie Lewandowski: In 2017, I began meeting with Katy at her home in Ithaca. She had visited a class I was co-teaching at Cornell called "Music and the Brain" with Neurobiology and Behavior Professor Ron Hoy to speak about acoustic communication in humpbacks and elephants, and I was interested to learn more about how humpback song evolves, which Katy made important discoveries about some decades ago.

It wasn't long in my meetings with Katy before I was also learning about the role of humpback song in the modern environmental movement, which Katy played a key part in facilitating. In 1970, Katy and Roger Payne co-produced the recording, [Songs of the Humpback Whale](#). It's the best-selling nature recording of all time and went multi-platinum. Through this recording, the Paynes realized that sharing the very fact that humpbacks sing, combined with the otherworldly beauty of their songs, provided the chance to change the way people perceived whales. And it did! Following the release of this record, conservation groups from all over the world began to get involved in the *Save the Whales* movement, which resulted ultimately in the global moratorium on commercial whaling. So that was all wrapped up in my early meetings with Katy.

In my own composition practice at the time, I was inspired to compose *Cetus: Life After Life*, for whale song and chimes. In this piece, speakers situated at the top of a chimes tower play two humpback song recordings in sequence from the Hawaiian humpback population's song of 1977 and 1981, a period of radical transformation. I composed a part for the chimes that traces the evolution of one of the themes during this period to play in duet with the humpback recordings. In performance, there is a very saturated and grand experience of chimes mingling with humpback song in the open air and it's beautiful, how the sounds combine and cascade over the landscape. The piece has been performed on [chimes](#) at Cornell University and on [carillon](#) at the University of Michigan.

But my interest in humpback whale song actually goes back to the 90's. I used to listen to *Songs of the Humpback Whale* when I was in high school. My friends remind me that I included tracks from the record on mixtapes I made for them back then.

TW: So actually I'd like to rewind a bit and ask you about the seed of this interest. You are a brilliant songwriter, and I love your body of work in song forms. So, I'm curious what in your mind or in your creativity, made you initially interested in whale song?

AL: I think as a teenager, the emotional quality of the songs was really gripping to me and it still is now. But more recently, as someone who creates songs and improvises and teaches in these areas, I developed an interest in the compositional lives of humpbacks. There are 14 populations of humpback whales and in each of these populations, the song is constantly evolving, creative minds are at work.

TW: Yeah. As I was listening to some of your recordings, I was curious if you think there's a universality in how we interpret emotional quality and meaning in sound? And are there risks of imposing human experiences and interpretations to another species' sounds?

AL: I love that question. And Roger Payne writes really beautifully about the emotional quality of humpback song in his book [Among Whales](#). Although whales and humans have been on separate but parallel evolutionary paths for tens of millions of years, there are laws of composition that are very similar across species. For example, whales use patterning in a way that is similar to how we do. Through a hierarchical structure, individual utterances give shape to repeating phrases that create themes that are performed in an invariant order to create songs. Songs are performed as cycles.

The length of a humpback song typically falls between six and twenty-five minutes. If you think of music that humans listen to, from popular to art music, there's a close parallel there as well in terms of duration.

And they are singing a great deal of the time in our hearing range. They can sing over a range of seven octaves, and generally their sounds fall between 30 hertz and 4000 hertz, which is about what you find on a piano.

As someone who loves improvised and new music, the quality of the sound, the timbral dimension, draws me in especially. It sounds so similar to how musicians use extended instrumental techniques!

TW: That reminds me of my experience when I visited the Cornell Lab of Ornithology with Ellen Fullman, and Bill McQuay played some of the recordings from the library. It was a moment for me of feeling *wow*, improvised music makes so much sense when I listen to this because hearing, for example, a tree hopper - just poking the branch to make a percussive noise or [bearded seals](#) making sounds like electronic music...there was a feeling in me that there's sentience and consciousness in these sounds. And as abstract as it is, it makes sense. When I hear and play improvised music, as abstract, textural and timbral as it is (such that a lot of people don't really think it is music), I feel there's a connection; that we are really just sounding ourselves and the objects around us. And it's somehow this universal and primal need to resonate.

AL: Absolutely. And as much as there is a need to resonate there's also a need to not resonate, to use silence in music. In humpback song, there is silence between units, phrases, and themes. Unlike humans, humpbacks don't need to breathe between sounds, and yet they make silence an integral part of song. Isn't that fascinating?

I would like to return to your question about anthropomorphism and imposing human experiences on listening to humpbacks. I think that the risk is more what ethologist and primatologist Frans de Waal calls *anthropodenial*, which is the systematic underestimation of animal abilities. He thinks that we need to admit that animals are more like our relatives than like machines.

Zoömusicologist Hollis Taylor writes about this in her book, *Is Birdsong Music?*.

TW: Oh yes! I met her when we visited with Jon Rose down in Australia.

AL: Oh, great! Yes, she visited my class “Animal Music” last semester - she's wonderful! She writes that it's telling that for people who study animal behavior, the tendency to anthropomorphize increases, not decreases, with their experience in the field. Roger Payne writes about this, too, in the context of conservation. How a kind of falling in love with a species or developing a kinship is a driving motivator in conservation.

TW: That reminds me of the film *My Octopus Teacher*. I think it's so true - like of course, these animals have extreme intelligence! I feel even plants have ways of communicating and have sentience and consciousness.

Can you describe the experience of being in the water while the whales were singing when you were in Hawaii? I think it was a couple of years ago, when you recorded whale songs yourself. What was that like?



Katy Payne and Annie Lewandowski listening on board
(Photo Chris Gabriele)

AL: Yes, there were varied and rich listening experiences in Hawaii. Katy and I went to Hawaii to record humpbacks with the Hawaii Marine Mammal Consortium in 2019. Before that, I had never had any experiences of being with humpbacks. On our first day on the water, the conditions were ideal - no wind, no other boat traffic. With the boat engine shut off, we could faintly hear humpback song resonating the hull of our boat. It was extraordinary, the boat's hull acting as a sort of sounding board for the song to pass from water to air. It just radiated skywards from the boat.

We also listened with the assistance of modern electronics. I have a HTI marine mammal hydrophone which I lowered 30-feet below the surface of the water to eavesdrop on the whales singing and recorded them. 10,000 whales come to breed in Hawaii during the breeding season, and during this time it's the male humpbacks that sing. Because of how sound travels in water, the hydrophone picks up what Katy calls the "asynchronous barnyard chorus" of males singing the same song, but independently, from distances tens of miles away. Unlike the boat's hull, the hydrophone provides incredible detail and a real sense of the oceanic abyss.

And I listened from the water. When humpbacks sing, they sing while stationary with their heads down. And basically, that's the posture I took to listen in the water. After jumping in, I'd get myself turned upside down, only my feet poking out of the water. Listening in the water, I lost the high-end frequencies and directionality, but I did have the experience of immersion, which was thrilling, and one that I am hoping to recreate in future pieces.

Annie Lewandowski listening
to whale songs underwater
(Photo Chris Gabriele)



TW: Tell us about your new piece *Siren - Listening to Another Species on Earth*, which uses these recordings from Hawaii.

AL: After collaborating on the 2019 Google Creative Lab project [Pattern Radio: Whale Songs](#), code artist Kyle McDonald and I were commissioned by [Media Art Xploration](#) (MAX) in New York City to develop a piece for performance exploring the creative intelligence of humpback whales for the MAX festival "The Neuroverse." At the beginning, we were focused on integrating human and machine learning

perspectives to reveal the humpback whale's evolving song. More recently, the scale and scope of the project have broadened, seizing the unique communicative opportunity that *Siren* performances offer to draw attention to marine entanglement. Every year, 650,000 cetaceans (whales, dolphins, and porpoises) are killed through their incidental entanglement in fishing gear.

In April, I'm assisting the Center for Coastal Studies (CCS) in Provincetown with their annual spring clean-up event, when CCS typically recovers 8-12 tons of drift nets, lobster lines, and all other assortment of fishing debris. Over two trips, I'll transport one-ton of the collected derelict fishing gear back to my land in Ithaca. In performances of *Siren*, the gear will be arranged in a landscape of shapes mirroring the machine learning's visualization of humpback song data. In performance, as listeners weave their way through piles of this gear, speakers embedded in the debris will project my (re)composition of Hawaiian humpback song recordings. Simultaneously, the machine learning's visualization of humpback song will unfold in time, illuminating the shapes of the surrounding marine debris with AI-generated light and color, tracing the evolution of the song.

We're imagining *Siren* as a 21st century telling of *Songs of the Humpback Whale* on its 50th anniversary, giving listeners new insight into the creative minds of humpback singers by integrating human and machine learning perspectives, while sounding the alarm on a major and unseen threat to marine mammal populations. Just as *Songs of the Humpback Whale* drew attention to the intentional killing of whales through commercial whaling, *Siren* will draw attention to the unintentional – and no less devastating – killing of whales through marine entanglement.

Recently, I heard a talk by composer Raven Chacon in which he used the term “deep listening of emergency” to describe what he heard listening to his recordings from Standing Rock in 2016. *Siren* feels very much like the kind of listening experience he describes - one of alarm, not one of meditation.

TW: What you said about that phrase from Raven is really moving. Not deep listening for meditation, but in emergency. When I listened to your piece *Cetus: Life after Life*, that's what I heard particularly in the whale song. There was a kind of scary quality to it - a mournful tone that made me wonder, is this a song or a cry? And it was such a beautiful performance Tiffany Ng gave on the carillon at the University of Michigan! Seeing the way that she moved while playing *Cetus* connected to a kind of desire to communicate, touch each other's consciousness because we are all related. Especially with whales - we're all mammals afterall!

AL: Tiffany's performance was extraordinary. I feel like she understood the time aspect of humpback song. The feeling of time resembles the swells of the ocean. It's not metronomic, but there's still a feeling of pulse.

TW: I want to bring up the subject of noise as music and noise as sonic pollution. Obviously, there's this whole genre of noise music that is highly valued. It's been elevated in many perspectives as the 'frontier of music', starting back from the vision of Italian futurist Luigi Russolo. You also use noise in a very interesting way in your songs so I'd like to open that whole topic up.

AL: Mostly I think about noise now as something I can't escape. I was diagnosed with Lyme disease this fall, and one of the side effects of the treatment I was given for Lyme is tinnitus. While it's diminished from what it first was, which was nearly unbearable, I'm still learning to live with it. And I think about whales, living in this ocean full of the noise of shipping, of oil and gas exploration, of military sonar. I read

that ocean noise has been increasing at a rate of 2.5-3 dB per decade since the 1960s. There's a powerful documentary about it on Vimeo by the NRDC called *Sonic Sea*.

When I think of noise music, I think of something I can choose to engage with. With my health as it is now, I can't choose when I engage with noise. Marine mammals can't choose and the impact is exponentially greater for them. Whales can't see past their own tails in the water and use acoustic communication to facilitate multiple aspects of their survival. If they can't communicate, if they can't hear, they can't survive.

I imagine many interesting studies will come out of the pandemic silence, the decrease of human activity this past year and its effect on the acoustic behavior of other animals. There's an amazing [article](#) by Rosalind Rolland on noise and stress in marine mammals. I bet the pandemic has been a period of great relief for many creatures, in the sea and on land.

TW: It makes you recognize how important silence is to our lives.

AL: Absolutely! Think of bowhead whales - they live to be 200 years old. That means there are bowheads living today who were alive when the ocean was quiet. The noise hasn't been around that long.

TW: Indeed. Well, this has been an incredibly rich conversation, Annie. I thank you so much for sharing more about your work in this area, and I foresee it developing in a really profound way.

AL: Thank you, Theresa! It's such a pleasure talking with you about our ancient mammalian relatives and their amazing creative minds.

[Annie Lewandowski](#) is a composer, performer, and senior lecturer in the Department of Music at Cornell University. She has been awarded grants from the Atkinson Center for a Sustainability for her research exploring the creative minds of humpback whales, and collaborated with Google Creative Lab to create the broadly adopted public web tool Pattern Radio: Whale Song for teaching AI to recognize patterns in humpback whale song. She has released nine recordings with her band Powerdove, and has presented her work at festivals and venues across the United States and Europe, including the Casa da Música (Porto, Portugal), the Hippodrome (London), the Frieze Arts Fair (London), and REDCAT (Los Angeles). She is a 2014 Civitella Ranieri Foundation Fellow.