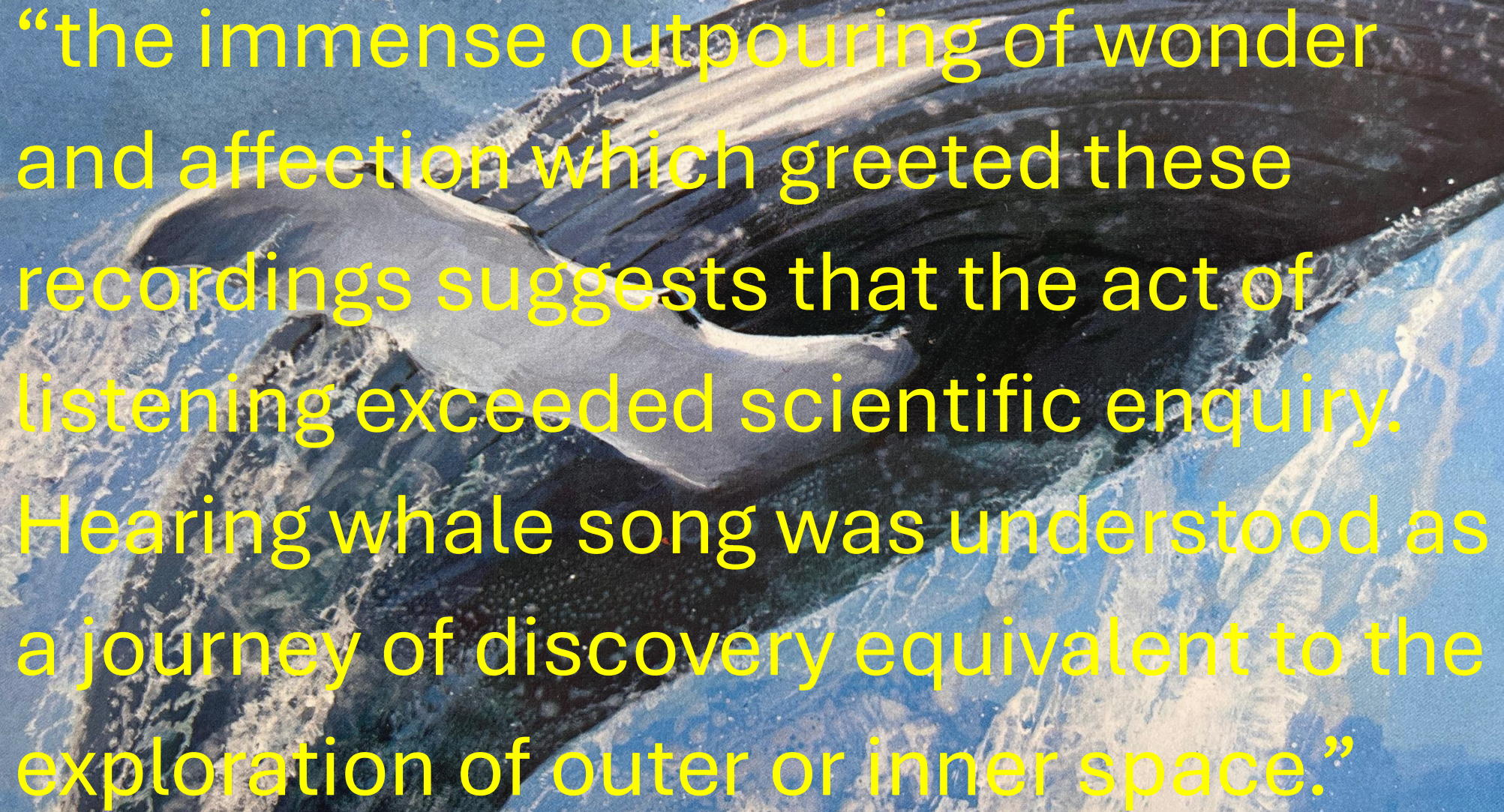




Sensing, Sounding and Sense-making with Whale song

ual ■ creative research in
sound arts practice

Dr Mark Peter Wright
CRISAP Director, Reader in Critical Sound Practice



“the immense outpouring of wonder and affection which greeted these recordings suggests that the act of listening exceeded scientific enquiry. Hearing whale song was understood as a journey of discovery equivalent to the exploration of outer or inner space.”



録音された音階を示す
グラフが設計し、香港



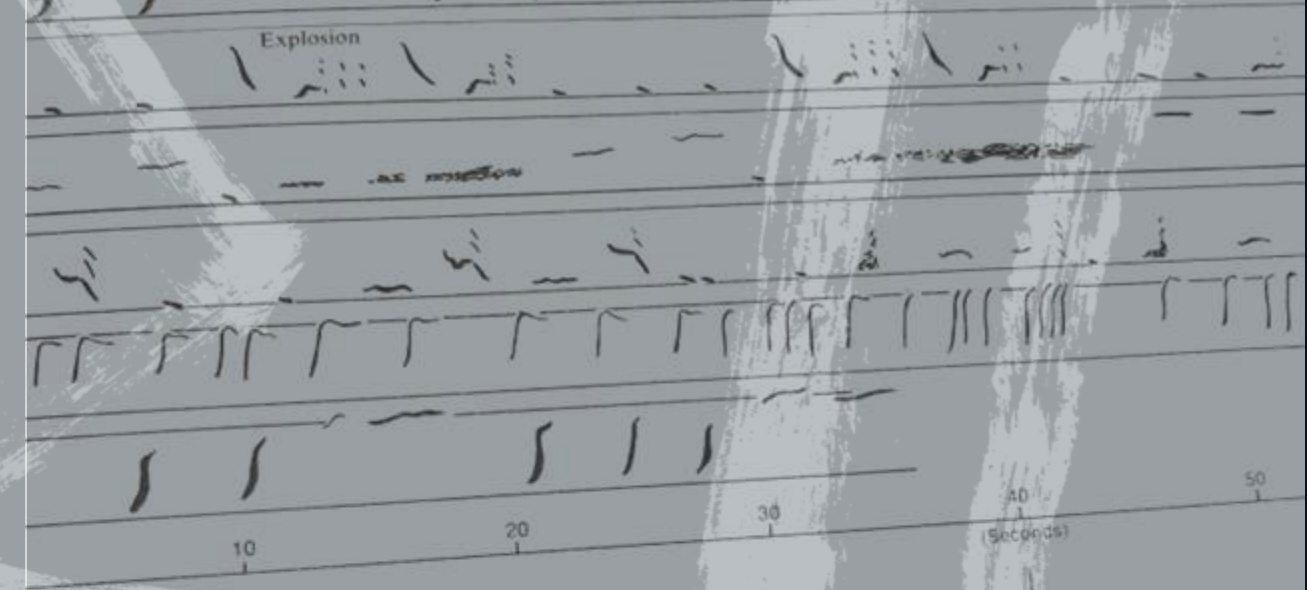
ory that the Humpbacks were
might there in the shallow water.
ese trips," Dr. Payne said, "we
uild up a faint picture of the daily
he whale's activity, but it is still
chy and it may be years before
y deep confidence in what I have to
at what they are doing in the
la vicinity."

all been pleasant. They are like cows, really,
and seem to me to be the most beguiling,
gentle creatures on earth.
"The main problem in studying them is
getting close enough. I don't think there is
much possibility of being harmed by them.
I'm sure they're too alert not to notice my
boat in their area so I have never felt the
slightest worry that some whale might smash
into me from below when it's breaching.
I have had a Humpback whale breach
within a few yards of a small rowboat I was
in—so close I was splashed by the spray.
That's not a story of bravery but rather of a
delightful encounter, and if I can survive the
part of my life I spend in a city, I am sure
I will survive those portions spent at sea.
"Everyone on that trip with me feels as I
do about the docility and the great charm
of those Humpbacks. It was interesting that,
regardless of our dissimilar walks of life, we
were all moved by their songs. There was
an acceptable feeling aboard that
the headphones long

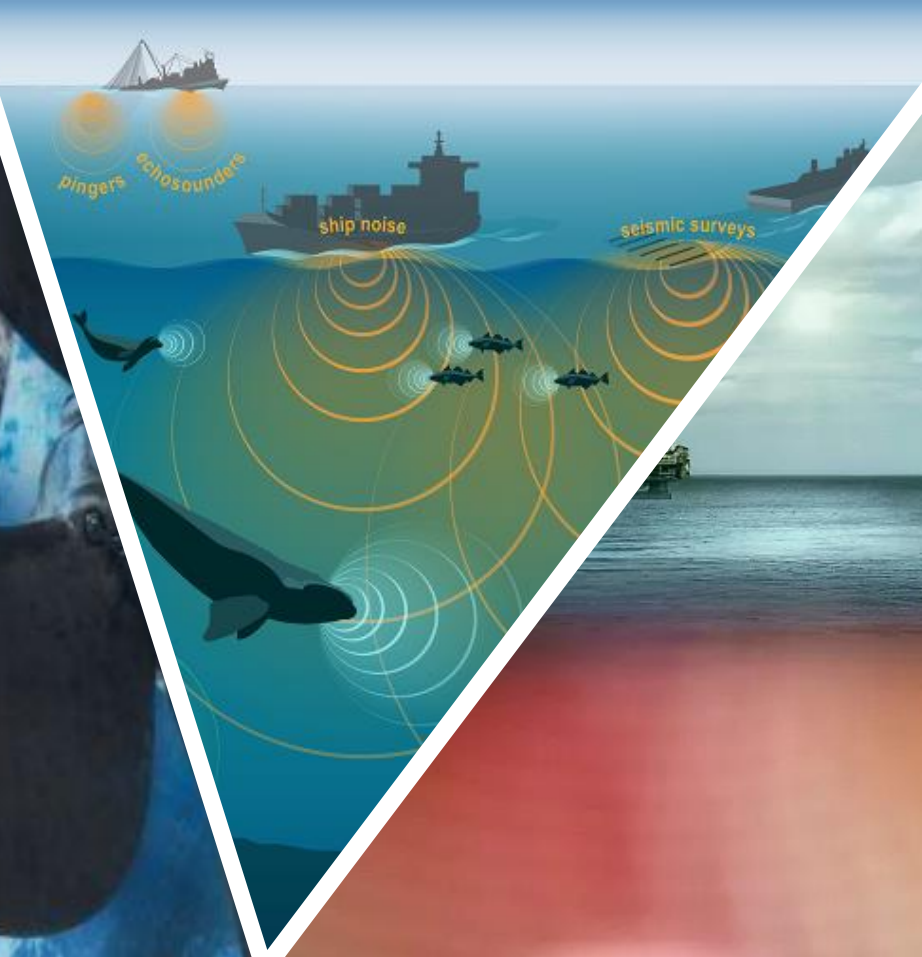
「この期間中に、鯨の日課について、ぼ
んやりした輪かきがつかめましたが、これは大
ざっぱなもので、バークミュンダ近辺で鯨がどんな
ふうに日を送るか確信を持って云えることはづ
っと先のことでしょう」と博士は述べています。
このように大きい動物、鯨の真中である
録音旅行の安全性について博士は「この問題は
捕鯨の危険さについて、まっごう鯨がボートを
二つにさいたとか、尾の先で、こっぴみじん
したと云う風に描写されているから起るのだと
思います。これは冒険話や小説の描写で
実際にこうしたことが起るのは、大抵の場合
捕鯨で、もりをうちこむからであり肺から心
つきさそうと、6フィートもあるやりを鯨
につっこむからです。こんな死の拷問をす
のたうつ大きい動物の傍にゆけば、誰で
付くことは、眼に見るよりも明らかです
の手段として、なんでも手あたり次第か
しても、鯨が敵意のある動物である
いえません」と云っています。
「私は鯨を殺した経験はあり
ますと試みたこともありません。従って

Listening Instructions

If possible, listen to the whale record through stereophonic headphones;
Side II, in particular, becomes a totally different experience when heard
through headphones. There is a lot of extraneous noise on this or any
recording of ocean sounds. This can't be helped. Earphones seem
somehow to reduce the distracting effect of the noise, giving a pleasant sense of
echoey space—a mystical feeling that is very hard to describe. For some
reason, this effect is seldom experienced fully with even the best loudspeakers.
When heard through headphones, the ocean noise seems a natural part of
the whales' world. Some of the ocean noise is generated by waves, earth
quakes, distant breakers, rain, grinding ice, stones tumbled by the tide, passing
ships, various shrimp, fish, seals, and whales themselves. The sea in most places
is alive with sound. The quietest parts of the sea are beneath the polar ice caps.
Far from industrialized man. The noises that most interfere with the Humpback
whale songs are the low-pitched ones, and in recent years ship traffic noise has
become a constant roar of low-pitched noise in the ocean, even far



Side I, Band 1 — Solo
This is a portion of a rec
Frank Watlington of the
University Geophysical
St. David's, Bermuda. E
microphone (called a A
in water about 1,500 f
leading ashore to the r
office. One day a wha
remained throughout
its song over and ove
they have been slight
out parts of two lo
Except for these de
have not been alte
no speeding up, sl
modification of th
the whale. Presu
songs would sou
The pair of so
in a form simila
(see page 13 in
it quite easy to
follow the son
how the whal
the loudest so





The Ear Witness

Aural memory/evidence of crime <> Soundscape researcher-recordingist

Legal (court/legislation) <> Culture (art/humanities)

“Ear-witness testimony, as opposed to eye-witness testimony, is the most prevalent source of evidence. Why? Because sound leaks.”

Lawrence Abu Hamdan, 2023

MATERIAL WITNESS

Media,

The Material Witness

“I assert that technical objects can account for and express their historical conditions; that artifacts can induce the affective register of testimony; and that materials can, in short bear witness.”

Susan Schuppli, *Material Witness*, MIT Press, 14

SUSAN SCHUPPLI

The Sounds of Life

—
How Digital Technology
Is Bringing Us Closer
to the Worlds of
Animals and Plants
—

Karen
Bakker



Typically, we have a big weight we usually use these big chain links because there's so much current around the UK you need quite a lot of weight. And then you have an acoustic release, so basically you can communicate with this unit to send it a morse code and then it can tell you 'yes I'm still here' and you send a signal and say, 'can you please come up' and there's some mechanical mechanism for it to come up to the surface. So, it's fully submerged, there's no line to the surface and that's partly to avoid entanglement of whales, so it sits basically three to five metres off the bottom. The simple and cheapest form is to just have a rising line and then you put the hydrophone on the line and then you have two buoys to keep it upright on the top. Most of what we do is archival, so we put them out for usually three months at a time sometimes a year, but to stretch longer the equipment needs to be bigger and more expensive, so the simple case what we usually do is three, four months then we go out, put it back down, analyse the data



Dr Denise Risch, Marine Mammal Ecologist, SAMS



The Spectrogram is always first even when we're just quality checking, and then we prepare the data, so sometimes we down sample if we're interested in sounds only in the lower frequency if we look at shipping or the large whales then we down sample sometimes as the first step. And then we send an acoustic detector, an automated detector through it to look for various species because a lot of the work that we're doing at the moment is related to marine renewables and so the question is the baseline: what is there, when, which species do we have to worry about, can you tell us what the seasonal distribution is.

So, a lot of it is going through and identifying species mostly on a daily basis, you know, species ABC are they there, are they not there, so we have a whole suite of different detectors and classifiers we apply

Dr Denise Risch, Marine Mammal Ecologist, SAMS

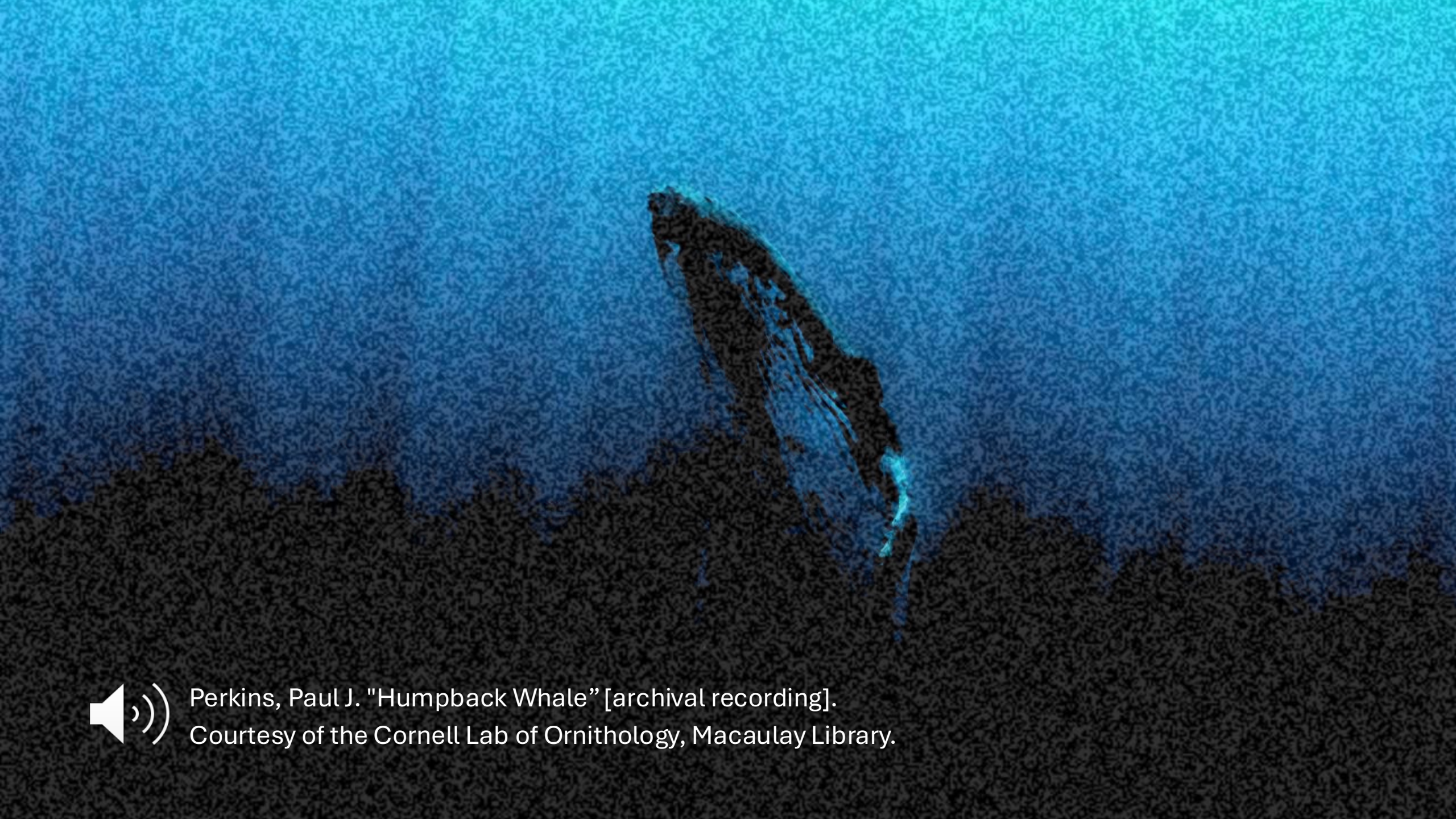


When I worked in the US the focus there was on a species, the North Atlantic White Whale, which there's only 300 hundred animals left. They're a big conservation focus so everyone was working on them, but their sounds... they do this up call that just goes 'ooOWhoop'. And humpback whales to very similar sounds and when you look at them in a spectrogram it's really difficult to distinguish them, but once you've listened to them you hear something that I can't really describe from a spectrogram, like I hear it, you know I feel I can distinguish those two species by listening to them but again that's practice. Because we're using spectrograms so much in identifying sounds and you know that's usually also what we teach the students first, and I always tell them listen to it because there's some information in there as well - there's something that you get from the listening that you can't see in a spectrogram



I love listening to the first underwater sound researchers or marine mammal researchers how they often sat in the field with a recorder, and they had one audio track with their commentary, and you can find those in the archives. So, I love listening to, you know, how they describe things and that's something I think we really lost. It would be interesting to somehow capture all that knowledge that they have left in the archives: they sat there and watched the animals while they were recording so they there's a lot of information in there that never made it.

Dr Denise Risch, Marine Mammal Ecologist, SAMS



Perkins, Paul J. "Humpback Whale" [archival recording].
Courtesy of the Cornell Lab of Ornithology, Macaulay Library.



Thanks for Listening

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