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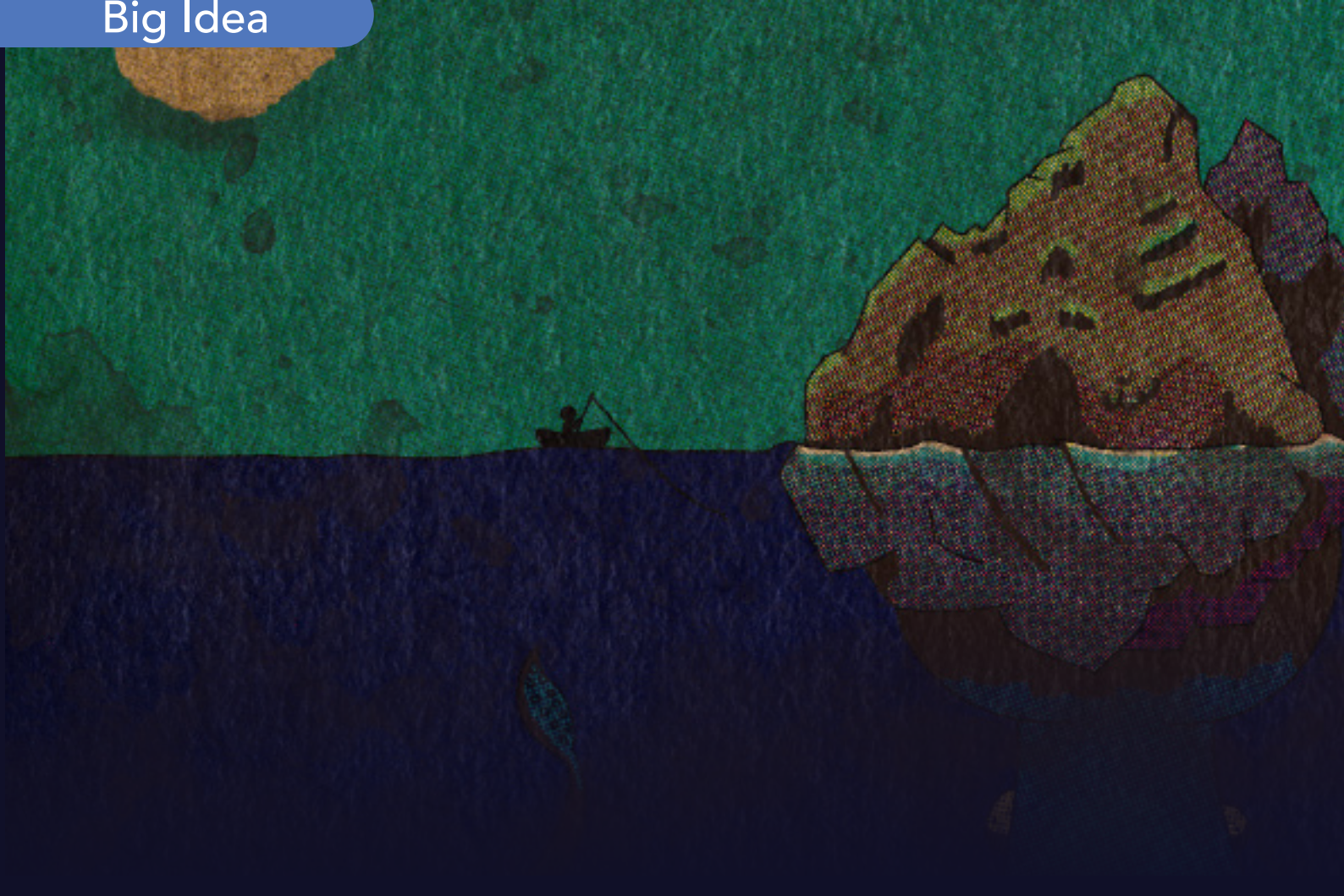
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The Sounds of the Deep Sea

Is There a Monster in Our Depths?

Written by Tanisha Shende

Illustrated by Patrick Estell

The deep sea has captivated the minds of humans for millennia. Along with outer space, it is a testament to our wonder and exploratory spirit, yet its closeness and darkness carry a more sinister weight. While the colorful coral reefs and fascinating ocean creatures are celebrated, once you go deeper, there is no telling what you will find. More than 80 percent of the ocean is unknown to humanity, so we must grasp blindly in the darkness for answers. However, some believe that the mysterious sounds from the deep sea may open our eyes to a great secret: that there is a gigantic creature living in our depths. This is a bold claim, one often disputed by scientists, yet it may tell us more about our oceans, and ourselves, than we would expect.

The Pacific Marine Environmental Laboratory (PMEL) is a branch of the National Oceanic and Atmospheric Administration (NOAA) dedicated to ocean observation. Their Acoustics Program detects and studies the sounds of the ocean using acoustic technologies, such as the hydrophone. Hydrophones can detect and record ocean sounds from any direction, and several hydrophones can be placed thousands of miles apart in an array to measure ocean sounds with greater sensitivity and precision than a

single device.

The Equatorial Pacific Ocean autonomous hydrophone array has detected several powerful and mysterious sounds from the ocean. One such sound, dubbed the “Bloop”, was repeatedly heard across the Pacific during the summer of 1997. It lasted a minute and was loud enough to be heard over a range of 3,100 miles. The source was roughly triangulated to 50°S 100°W in the South Pacific, west of the southern tip of South America.

PMEL scientists were initially unable to explain the Bloop, leaving some scientists and the general public to wonder if the

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sound originated from an animal. In 2002, journalist David Wolman wrote an article about this theory entitled “Calls From the Deep”

in the science magazine *New Scientist*. In the article, Christopher Fox, a geophysicist at NOAA, and Phil Lobel, a marine biologist at Boston University, both stated that they believe the Bloop is biological in origin. According to Fox, the Bloop's spectrogram—a visualization of a sound's energy and pitch over time—resembles that of other marine animals. The problem is that since the Bloop was heard over thousands of miles, it must be louder than any known animal, including the blue whale, the current largest animal on Earth. Wolman muses that this must imply the existence of an animal that is either incredibly large or incredibly adept at making loud noises.

The suggestion of an unknown creature lurking in our depths enthralled the public. The Bloop became associated with an image of a gigantic sea monster several times larger than a blue whale. It has beady black eyes that lock onto its prey and thick fins to propel it forward, but the most prominent feature is the mouth of the beast: a gaping maw surrounded by sharp teeth, a window into the creature's cavern of a body. Whenever the story of the Bloop was recounted, this picture and the claim that it is one of the ocean's greatest mysteries were always linked.

It took on a Lovecraftian air as people grappled with the idea of forces much more significant than themselves at play. The term "Lovecraftian" is used to describe an unknown creature that is more terrifying than a person could imagine, often referring to the world that H.P. Lovecraft would tell in his stories. While the mystery unsettled some, others found comfort in it. One person stated on an online forum that "the universe would be utterly horrifying if we could perceive everything." The connection to Lovecraft's work is a literal one as well. The Bloop's location was roughly determined to be about 1000 miles away from the location of R'lyeh, a fictional underwater city and the prison of the cosmic entity Cthulhu, according to Lovecraft's most well-known short story, "The Call of Cthulhu." Regardless of whether people believe the Bloop to be Cthulhu or not, this association demonstrates that the Bloop has been elevated to the status of an urban legend. It is now the property of the public and its love of mysteries, spectacles and the scientists that initially detected it.

In the meantime, PMEL's researchers continued their work on the ocean's sounds. From 2005 to 2010, an acoustic survey was conducted of the Bransfield Strait and Scotia Sea in the Antarctic Peninsula region, near the Bloop's location off the tip of South America. Hydrophones placed in the Scotia Sea picked up several "icequakes." Also known as cryoseisms, icequakes are seismic events caused by sea ice cracking or large ice chunks breaking away from a glacier. Such events occur tens of thousands of times per year, spurred on by global warming. The icequakes detected in this study were used to track iceberg A53a in early 2008, and their spectrograms were remarkably similar to that of the Bloop. Additionally, icequakes are loud enough to be heard by multiple hydrophones at a range of 3000 miles. Thus, NOAA concluded that the Bloop was most likely an icequake caused by one or more icebergs between Bransfield Straits and the Ross Sea or at Cape Adare.

Robert Dziak, a seismologist at NOAA and Oregon State University and one of the researchers involved in the acoustic survey, elaborated on the findings through an email to *Wired.co.uk* in a 2012 article. He said that most NOAA researchers never seriously believed that the Bloop was biological in origin and that the idea of some mysterious sea creature was more "fantasy than science."

Dziak also stated that most detected sounds from the ocean are not that mysterious. They almost always have known sources, such as weather and geophysical events (i.e., storms and underwater volcanoes), humanity (i.e., ships), ice, and animals; otherwise, they are most likely electronic interference.

Given NOAA's disinterest in the Bloop being an unidentified creature, what explains the propagation of the myth among the general public? Dziak theorizes that the recording misled people. It is sixteen times faster than the original, and the recording played in real-time sounds more geophysical than biological. Perhaps the myth caught on even then because people want to believe in fantasy over reality.

The realization that the Bloop was an icequake may be satisfying to some who sought a final answer to a decades-old question. Still, it may be disappointing to others who believe it is too ordinary and sterile. In the video's comment section comparing the sped-up audio recording with the original. One user remarked, "I honestly prefer to believe in a creature, even if it's not real." People are intrinsically drawn to fantasies. After all, isn't it alluring to imagine that humanity is on the cusp of a great discovery? A quote from the television show, *Altered Carbon*, goes, "Humanity has spread to the stars. We set out like ancient seafarers to explore the limitless ocean of space. But no matter how far we venture into the unknown, the worst monsters are those we bring with us." Humans are drawn to the unknown, and we seek out the ocean the way we do outer space, imagining creatures much grander and more frightening than we can handle. The Bloop itself is a story about researchers designing effective acoustic technology to learn more about the Earth and its processes. The lore surrounding the Bloop demonstrates humanity's need for fantasy and novelty. ● ● ●

