Caging the Seas:
Cetacean Capture and Display at Marineland of the Pacific, 1954-1967

by

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Abstract

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This thesis examines the early years of marine mammal captivity at Marineland of the Pacific and its impacts on the oceanarium industry, cetacean science, and public perceptions of whales. Opening in 1954, Marineland was the first oceanarium on the Pacific coast of North America, the largest oceanarium in the world, and the lead institution in cetacean capture, entertainment, and marine mammal research. In 1957, Marineland captured and displayed the first pilot whale, "Bubbles," and ignited the whale capture industry that still exists sixty years later. Although often overlooked in scholarly work, Marineland developed innovative capture and display techniques while expanding animal husbandry knowledge. The park also revolutionized the marine mammalogy field by providing unprecedented opportunities for scientists to closely observe, study, and interact with live whales. Furthermore, Marineland's capture, display, and portrayal of pilot whales in popular media generated public empathy toward cetaceans and transformed public perceptions of the animals. Through examinations of scientific papers, popular publications, interviews, and the Kenneth S. Norris Papers from the University of California Santa Cruz, a collection containing Norris's personal scrapbooks, field notes, and unpublished research, this thesis will show that Marineland of the Pacific was the crucible of change for marine entertainment, cetacean research, and public perceptions of whales.

Table of Contents

List of Figures

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Introduction

On February 26th, 1957, Dr. Kenneth S. Norris and his capture crew succeeded in catching a live pilot whale and transferring it from Catalina Channel to its new home at Marineland of the Pacific in Palos Verdes, California. For most of the month the crew had attempted to net a whale, eventually battling with the 1700-lb animal through the night and early morning. Norris celebrated the animal's capture, noting that "[e]verybody was exultant. We, by golly, had caught a real, live whale, and were about to bring it in! We didn't think many people had done that before us."[1] Norris was correct: No other aquarium in the world at that time held a live whale for public viewing. Pilot whales quickly became Marineland's biggest attraction, or as its advertisements stated, "the most famous salt water star in history."[2] "Bubbles," "Bimbo," and others, made headlines across the country, appeared in popular television shows, and drew audiences to the park. This early capture of live cetaceans helped ignite the whale capture industry that still exists sixty years later and played a central role in transforming public and scientific understandings of cetaceans.

When Marineland of the Pacific opened in August 1954, a decade before Sea World was founded, it was the first oceanarium on the Pacific coast of North America, the largest oceanarium in the world, and the lead institution in cetacean capture, entertainment, and marine mammal research.[3] These days, marine mammal captivity is profoundly controversial, but at the

[1] Field Notes 1949-1960, 308, Norris (Kenneth S.) Papers, Box 36, University of California Santa Cruz Archives (hereafter UCSCA). More accounts of the capture are also in: Kenneth S. Norris, *The Porpoise Watcher* (New York: W W Norton & Co. Inc., 1974):78; Timothy Branning, "Whale Done," *Westways* (May 1980):47-49, Point Vicente Interpretive Center Archives (hereafter PVICA); Kenneth S. Norris, "The Big One Got Away," *Pacific Discovery* XI, no.5 (October 1958):3-8, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) papers, Box 60, UCSCA.

[2] Marineland of the Pacific Brochure, Millay Papers, Box 9, File 422, University of Central Florida Archives (hereafter UCFA).

[3] Originally named Sea World, the company's name changed to SeaWorld in the late 1990s.

time whaling companies still operated up the coast in San Francisco Bay at Point San Pablo. Although bottlenose dolphins had been displayed and studied in aquariums around the world for decades, larger cetaceans were mostly absent from the display industry until Marineland's ventures. P.T. Barnum had briefly displayed beluga whales in New York in the 1860s, but the whales' relatively small size did not impress audiences and the animals came to a tragic end in an 1865 fire.[4] In 1948, Marine Studios in Florida rescued four stranded pilot whales, but the longest-lasting survivor lived only a few months and was never displayed to the public.[5] Marineland's successful capture and display of pilot whales, as well as several other firsts in the oceanarium world, allowed public audiences to experience cetaceans in different ways and rethink their ideas about whales.[6]

At a time when active whaling was taking place along the Pacific coast, the public often saw whales as ferocious killers or sources of food or oil. The displays at Marineland enabled audiences to observe unfamiliar marine mammal species and interact with cetaceans in new ways. No longer seen only as casualties of whaling expeditions, whales became playful friends whose tricks delighted audiences. The early years of the display industry also revolutionized marine mammalogy by providing unprecedented opportunities for researchers to closely observe, study, and interact with live whales. Marine mammalogists previously relied on specimens collected from whaling ships, hunting trips, or beach strandings, or on limited wild observations.

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[4] Jake Jacobs, *Marineland Diver* (New York: Dodd, Mead & Co.,1960): 161. Although beluga whales, killer whales, and pilot whales all belong to the Cetacea order along with whales such as the gray whale and humpback whale, pilot whales and killer whales are more closely related to dolphins and porpoises. Both species are commonly called whales because of their large size, morphology, and behaviours.

[5] Henry Kritzler, "Observations on the Pilot Whale in Captivity," *Journal of Mammalogy* 33, no.3 (August 1952):321.

[6] Marineland of the Pacific was responsible for collecting a Cuvier's beaked whale and a pygmy sperm whale in the 1950s. The park also displayed the first captive false killer whale and killer whale. Marineland Scrapbook 1950-1959, Norris (Kenneth S.) Papers, Box 59, 39-48, UCSCA; "Rare Baby Whale Captured Near Catalina, Dies," *Los Angeles Times* January, 1958, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, 19, UCSCA.

Now, for the first time, marine mammalogists studied live whales and gathered foundational information about cetacean feeding habits, social behaviours, and intelligence. Consequently, Marineland and its displays played a critical role in reframing public perceptions of cetaceans and transforming scientific understandings of marine mammals.

From 1957 to 1967, several pioneers in marine mammalogy conducted research at Marineland of the Pacific. For example, acclaimed marine biologist Kenneth S. Norris began his work with cetaceans as park curator in 1954. While there, amid other breakthroughs, Norris confirmed that dolphins use echolocation and uncovered an array of social behaviours among pilot whales and dolphins.[7] After leaving Marineland, Norris went on to develop an underwater viewing vessel to better observe cetacean behaviour, helped write the Marine Mammal Protection Act of 1972, and contributed immensely to the field of marine mammalogy.[8] As a result of consistent, convenient, and relatively safe access to live cetaceans at Marineland, scientists witnessed sexual behaviours, observed social interactions, started considering the emotional intelligence of cetaceans, and took part in the first seemingly successful release of a captive whale back into the wild.

This thesis examines the early years of pilot whale capture and display at Marineland, and its impact on entertainment and scientific research. It will speak to scholarly debates in environmental history and the history of science, and aims to contribute to the growing field of animal history. Popular topics in environmental history include the concept of wilderness as a cultural construction, the role humans have in influencing the environment, and how environments can alter human action, yet the role of nonhumans as active actors in history is

[7] Echolocation is the ability to use sound waves and echoes to locate objects in the environment.

[8] Randall Jarrell and Irene Reti, *Kenneth S. Norris: Naturalist, Cetologist, & Conservationist, 1925-1988. An Oral History Biography.* (Berkeley: University of California Press, 2010). After Norris left Marineland in 1960, he went on to help design SeaWorld and conducted research at Sea Life Park Hawaii.

absent in most environmental history scholarship.[9] Animal historian Susan Nance challenges scholars to "put nonhumans in the subjects of our sentences, rooting out the passive-voice or animals-as-objects prose by which we fool ourselves into thinking we are writing about animals."[10] Instead of writing about animals as merely extensions of human interests and control, Nance argues that nonhumans are sentient beings produced in and responding to specific cultural and material contexts who have the ability to change human lives.

Historical analyses of cetaceans tend to focus primarily on nineteenth and twentieth century whaling, the environmentalist movement of the 1970s, or contemporary technological advances used by wildlife biologists. Recently, historians such as Margo DeMello and Jason Colby have advanced Nance's proposal by showing how transpecies histories can reveal hierarchical relationships, systems of knowledge, and human ideologies.[11] This thesis will also take up Nance's call by seeking to understand not only how humans crafted and recrafted whale imagery but also how animal actions influenced human understandings and uses of cetaceans.

Properly historicizing animals within specific contexts is difficult since historians cannot conduct interviews with animals, read their memoirs, or access formal archives arranged by

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[9] Some of these works include: William Cronon, "The Trouble with Wilderness: Or, Getting Back to the Wrong Nature," *Environmental History* 1, no. 1 (January 1996): 7-28; Richard White, "American Environmental History: The Development of a New Historical Field," *Pacific Historical Review* 54, no. 3 (August 1985): 297-335; White, "Afterword Environmental History: Watching a Historical Field Mature," *Pacific Historical Review* 70, no. 1 (February 2001):103-111. For more specific marine environmental history see: W. Jeffrey Bolster, *The Mortal Sea: Fishing the Atlantic in the Age of Sail* (Cambridge: Harvard University Press, 2012); Callum M. Roberts, *The Unnatural History of the Sea* (Washington: Island Press, 2007).

[10] Susan Nance, Introduction, *The Historical Animal,* edited by Susan Nance (New York: Syracuse University Press, 2015): 3; also see Susan Nance, *Entertaining Elephants: Animal Agency and the Business of the American Circus* (Baltimore: John Hopkins University Press, 2013).

[11] Some of these works include: Jason Colby, "The Whale and the Region: Orca Capture and Environmentalism in the New Pacific Northwest," *Journal of Canadian Historical Association* 25, no. 2 (2013): 425-454; Jason Colby, *Orca: How We Came to Know and Love the Ocean's Greatest Predator* (New York: Oxford University Press, 2018); Margo DeMello, *Animals and Society: An Introduction to Human-Animal Studies* (New York: Columbia University Press, 2012); Chris Philo and Chris Wilbert, "Animal Spaces, Beastly Places: An Introduction," In *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations,* edited by Chris Philo and Chris Wilbert (New York: Routledge, 2000): 1-34; Mark T. Werner, "What the Whale Was: Orca Cultural Histories in British Columbia since 1964," (MA Thesis, University of British Columbia, 2010).

animals. Instead, scholars must look to alternative sources, such as biological understandings about animal behaviour, moments when animals contravened expected behaviours, or even the physical bodies of animals, to record and analyze the lives of nonhumans. For example, Mark Werner examines how the behaviour of Moby Doll, the second captive orca, surprised audiences and transformed ideas about the species, while Colby uses studies of orcas' physical bodies, which include notes on bullet marks and surgical incisions, to explore killer whale history.[12] Some scholars rely on interviews with those who work closely with animals, while others use quantitative data gathered through surveys.[13] This thesis will use a combination of sources, including interviews, corporate documents, media reports, children's books, television shows, and scientific papers, to show the importance of early pilot whale captivity and to contribute to the larger field of animal history. It also relies heavily on the Kenneth S. Norris Papers from the University of California Santa Cruz, a collection containing Norris's personal scrapbooks, unpublished writings, journals, and fieldnotes, which has been largely overlooked by other historians. In using a variety of sources, this thesis will show that animals are not just voiceless commodities, but agents of history who represent and change the values and beliefs of their time.

Over the course of the twentieth century, whales were imagined as monsters, sources of oil, entertaining friends, and eventually icons of environmental protection. These evolving images of whales provide insight into commonly held beliefs of the time. In her study of circus life, Diana Starr Cooper reminds us that "[w]e make animals into icons - of nobility, cuddliness,

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[12] Werner, "What the Whale Was;" Jason Colby, "Changes in Black and White: Killer Whale Bodies and the New Pacific Northwest," in *The Historical Animal,* ed. Susan Nance (New York: Syracuse Press, 2015): 19-37.
[13] Etienne Benson, *Wired Wilderness: The Technologies of Tracking and the Making of Modern Wildlife* (Baltimore: John Hopkins University Press, 2010); Susan G. Davis, *Spectacular Nature: Corporate Culture and the Sea World Experience* (Berkeley: University of California Press, 1997); David M. Lavigne, Victor B. Scheffer, and Stephen R. Kellert, "The Evolution of North American Attitudes toward Marine Mammals," in *Conservation and Management of Marine Mammals,* edited by John R. Twiss Jr. and Randall R. Reeves (Victoria: Melbourne University Press, 1999): 10-47; Frank Zelko, *Make it a Green Peace! The Rise of Countercultural Environmentalism* (New York: Oxford University Press, 2013).

freedom, whatever is bothering us at the moment - in a way that says much more about what we care about, worry about, or worship, or fear, or desire, than anything that matters to animals themselves."[14] In other words, the way the public imagines and portrays animals reveals popular concerns, values, and beliefs, not insight into the realities of animals' lives or experiences. Colby's research on killer whale captures in the Pacific Northwest in the 1960s and 1970s corroborates Cooper's claim, showing how killer whales were transformed from savage killers to symbols of environmentalism who highlighted concerns about the ethical treatment of animals, environmental damage, and animal agency. He explains how the capture and display industry altered public perceptions of the species as orcas were transformed from "mysterious black-and-white masses to individuals with stories of their own."[15] Similarly, pilot whale imagery in the 1950s underwent dramatic transformation. The public, for example, no longer saw pilot whales as insignificant; instead; they saw famous celebrities, like Bubbles and Bimbo, who had individual personalities and formed special relationships with both humans and other cetaceans.

Although pilot whales did not have the same ferocious reputation as killer whales, captivity still caused a shift in public perceptions toward the species. Pilot whale hunting flourished in the eastern United States from the arrival of Pilgrims in 1620 to the mid-twentieth century.[16] Internationally, many whaling drives still target the species. How then, did Bubbles become Marineland's biggest star? What contributed to this change in perceptions and understandings of pilot whales in mid-twentieth century America?

While historical scholarship has explored how the display industry creates icons of some marine mammals, it largely focuses on how audiences receive and respond to animal images and

[14] Diana Starr Cooper, *Night after Night* (Washington: Island Press, 1994): 139.
[15] Colby, "Changes in Black and White," 20.
[16] Nancy Shoemaker, "Whale Meat in America," *Environmental History* 10, no. 2 (April 2005):269-294.

ignores how oceanariums' economic workings impact the way the park presents animals to the public.[17] One of the few studies devoted entirely to the marine display industry is Susan G. Davis's *Spectacular Nature: Corporate Culture and the Sea World Experience*, which provides an in-depth analysis of marketing, programs, and performances from the 1970s to the 1990s. Davis shows how the corporately produced space profited from public interactions with man-made "nature" and shaped popular understandings of the environment and science. [18] Although Davis provides insight into the marine park industry of the late twentieth century, she fails to acknowledge the origins of the marine mammal captivity and display or the role Marineland had in developing the marine mammal entertainment industry SeaWorld is now known for.

Davis also examines who had access to Sea World by noting the necessity of a car to physically reach the theme park and the obvious ethnic and class divisions among visitors and students in educational programs. Davis's research period is more than twenty years after Marineland opened its doors; therefore, it is likely that access to Marineland would have been even more restricted by the economics, policies, and culture of its time.[19] Although Davis explores who visited Sea World, she leaves out the connection between those who had access to marine parks as visitors and employees and those who went on to be major leaders in the field of marine mammalogy. She is not interested in the development of cetacean sciences in connection to marine parks, nor does she examine how research at oceanariums contributed to the marine

[17] Some of these works include: Colby, "The Whale and the Region;" Colby, "Changes in Black and White;" Jane C. Desmond, *Staging Tourism: Bodies on Display from Waikiki to Sea World* (Chicago: University of Chicago Press, 1999); Nance, *Entertaining Elephants;* Jim Nollman, *The Charged Border: Where Whales and Humans Meet* (New York: Henry Holt and Company, 1999); Zelko, *Make it a Green Peace!*

[18] Davis, *Spectacular Nature*, 66-68.

[19] For more on the connection between class/ethnic tensions and the theme park industry see: Eric Avila, *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles* (Berkeley: University of California Press, 2004); Victoria W. Wolcott, *Race, Riots, and Roller Coasters: The Struggle over Segregated Recreation in America* (Philadelphia: University of Pennsylvania Press, 2012).

mammalogy field. This thesis will add to the historiography of marine parks by exploring Marineland's origins, including how it promoted pilot whales in the media and expanded scientific understandings of marine mammals, and the park's economic problems as it struggled to remain a strong competitor in the marine park industry.

The oceanarium industry began in 1938 with the opening of Marine Studios in St. Augustine, Florida. Originally intended as a place where film and television studios could study and document the underwater marine environment and its inhabitants, the facility was a surprise success in the tourist industry. Marine Studios's popularity encouraged Henry Harris, a New York City investment banker, to expand the oceanarium industry to the West Coast. In 1953, Harris purchased land on the rocky cliffs of the Palos Verdes Peninsula and began construction on Marineland of the Pacific. Harris's goal was not only to attract tourists interested in marine life, but also to bring marine biologists and local researchers to the park.[20] For thirteen years, Marineland and its marine animals were the lead aquatic entertainers in the United States, but by the late 1960s, Marineland struggled to compete with other tourist attractions in Southern California.

Sea World opened in 1964 and quickly acquired a killer whale - the most popular marine mammal at the time. Audiences were drawn away from Marineland's aging infrastructure and limited exhibits towards the newer and more impressive Sea World. By the time Marineland was able to maintain a long-term killer whale display in 1968, its economic problems and constantly changing ownership stopped the park from competing seriously in the oversaturated entertainment industry of Southern California.[21] In its first decade, Marineland developed a new

[20] Jim Patryla, *A Photographic Journey Back to Marineland of the Pacific* (Lulu Books, 2005): 4.
[21] Economics Research Associates, *An Economic Plan for the Revitalization of Marineland* (Los Angeles, June, 1972): I-1, Millay Papers, Box 9, File 423, UCFA.

industry and accompanying techniques while also encouraging marine research, yet the increased competition and Marineland's outdated infrastructure saw revenue and visitor attendance drop steadily until Sea World acquired and closed the park in 1987.

This thesis will show how Marineland's establishment as the lead oceanarium in the 1950s not only transformed public understandings of cetaceans, but also created new sites of interaction between cetologists and live whales. Such connections have received little attention from historians. For example, D. Graham Burnett traces how whaling research and ecological management policies shaped cetacean science over the twentieth century. He claims that John C. Lilly, a well-known and controversial neuroscientist involved with questionable dolphin experiments in the 1960s, was largely responsible for inspiring the public to see whales and dolphins as intelligent creatures similar to humans.[22] While there is no doubt Lilly had an influential role in developing marine mammalogy, Burnett ignores how interactions at marine parks also changed public opinions or that scientific research was often conducted in tandem with oceanariums.

Other historians focus on the later years of marine mammal captivity and scientific studies. Both Colby and Etienne Benson, for example, examine how killer whale captures in the 1960s and 1970s provided opportunities for marine park corporations to partner with scientists to develop tracking and identification technologies, as well as how changing public ideologies and legislation eventually restricted scientific research. Yet, they concentrate solely on killer whales in the years when marine parks were already well established.[23] The era prior to killer whale

[22] D. Graham Burnett, *The Sounding of the Whale: Science and Cetaceans in the Twentieth Century* (Chicago: University of Chicago Press, 2012): 530. For more on cetacean research history see: Hal Whitehead and Luke Rendell, *The Cultural Lives of Whales and Dolphins* (Chicago: University of Chicago Press, 2015).
[23] Colby, "Changes in Black and White;" Benson, *Wired Wilderness.* For more on the history of orca-human interactions see: Erich Hoyt, *Orca: The Whale Called Killer* (Ontario: Camden House Publishing Ltd., 1981)*;* Jane

captivity has been largely overlooked by historians but is essential to understanding how early whale captivity transformed the domain of cetacean science.

This thesis will examine the early history of Marineland of the Pacific in three parts: Chapter one explores Marineland's development and the expansion of the marine mammal entertainment industry in the mid-twentieth century. Although animal collection and display have a long history, Marineland faced unique challenges in the capture, care, and display of marine mammals because of their size, habitat requirements, and lack of other parks to look to for advice. Marineland developed original technology for capturing large cetaceans and devised husbandry practices for unfamiliar animals - knowledge and techniques it shared with oceanarium directors around the world. This chapter will then examine how Sea World's opening, and their killer whale displays, generated competitive problems for Marineland which were never overcome.

Chapter two turns to the role Marineland of the Pacific had in developing the marine mammalogy field. This chapter will examine scientific publications produced by Marineland to show the types of research conducted at the park, the discoveries made there, and how the field of marine mammalogy changed as a result of these discoveries. While many research programs took place at Marineland of the Pacific, there were also several missed opportunities that could have contributed tremendously to cetacean sciences and the display industry. For example, in 1967, Marineland returned Bimbo to the ocean. His release, the first reintroduction of a captive whale to the wild, should have confirmed Marineland's standing as a leader in the oceanarium industry and been a source of critical information for future marine parks and rescue organizations. Yet, little information about Bimbo's release was recorded or published, resulting

C. Desmond, *Staging Tourism;* Mark Leiren-Young, *The Killer Whale Who Changed the World* (Vancouver: David Suzuki Institution, 2016); Werner, "What the Whale Was;" Zelko, *Make it a Green Peace!*

in a lost opportunity for the park. This chapter will also explore how scientific research was presented to the public, its influence on what audiences learned about cetaceans, and how increasing pressure to create more entertaining performances restricted research programs and public education at the oceanarium.

Chapter three will explore the public image of whales in popular television shows, newspapers, children's books, and magazines. It will show how pilot whales were transformed from mere industry resources to celebrities with individual personalities. Public thought toward pilot whales changed completely in the mid-twentieth century because of audience interaction with cetaceans, stories published by employees about their relationships with whales, and the way incidents among captive whales were portrayed to the public. Not only did Marineland and the media give whales unique personalities, but they also placed gendered assumptions and behaviours on the animals in newspapers, television shows, and performances. These expectations emphasized common gender norms and family values of the postwar period. Frequently, however, the media and Marineland of the Pacific had to mediate situations where whales behaved outside the expected norms. In investigating the representation of whales in the media, as well as their failure to conform with certain behavioural expectations, this chapter shows how cetacean history and the language used in popular media can provide insight into societal ideas, values, and relationships with nonhumans.

Marineland of the Pacific's history sheds light on the early years of cetacean display, marine mammalogy research, and changing public perceptions about whales in the postwar era. Though often overlooked in scholarly work, Marineland was the crucible of change for marine entertainment, cetacean research, and public perceptions of whales. By examining the park's early operating years, this thesis will contribute to discussions on the marine capture and display

industry, the history of cetacean science, and the changing relationship between humans and cetaceans.

Chapter One: Creating a Cetacean Nation

One month before capturing Marineland of the Pacific's first live pilot whale, Dr. Kenneth S. Norris and his capture crew ventured out off the coast of California to study the species in the wild. Only days into the expedition, the crew shot and killed a young male pilot whale before hauling the animal aboard the collection boat. Norris proceeded to measure the whale and make notes of its anatomical features before dissecting it. "The procedure sounds cruel and was not pleasant for any of us," reflected Norris, "but we could rationalize our way out by remembering the works of whalers past and present, and the fact that the animal would die instantly from a shot in the head."[24] By killing and studying the whale, the crew gathered accurate measurements to construct a durable net for the future capture of live pilot whales. From a contemporary perspective, the event seems disturbing. For those familiar with Norris, it is not in keeping with the memory of the revered biologist who was instrumental in writing the 1972 Marine Mammal Protection Act, which made it illegal to collect, harass, or kill marine mammals. Yet this event was a critical part of a much larger transformation in the postwar relationship between humans and cetaceans.

Human perceptions of wild animals have been largely impacted by the ability to capture and display species. Beginning in medieval times with wealthy sovereigns' private collections and menageries, the animal collection and display industry expanded into publicly accessible zoological parks and traveling circuses by the nineteenth century.[25] Marineland of the Pacific built upon this tradition of displaying unfamiliar animals to audiences, contributing to the

[24] Field Notes, 1949-1960, Norris (Kenneth S.) Papers, Box 36, 300-302, UCSCA.

[25] Phillip Drennon Thomas, "The Tower of London's Royal Menagerie," *History Today* 46, no. 8 (August 1996): 29-35. The Tower of London housed a collection of elephants, leopards, bears, and other exotic creatures from the 13th century until they were moved to the London Zoo in 1831.

animal-dealing business that saw collecting expeditions bring animals from Asia and Africa to zoos and circuses in the United States. As Elizabeth Hanson explains:

> Dealers in live specimens focused on animals that adapted well to life in captivity and were good investments - likely to survive months, and sometimes years, of travel under harsh conditions. But a rare specimen - a platypus, for example - could bring prestige to both an animal collector and the zoo the animal was sold to, and it was worth investing time, effort, and money in learning how to care for it.[26]

Marineland's focus on marine animals and the underwater environment launched a new era of the long-established animal display industry involving collection of not only some of the largest animals ever captured, but also ones with entirely different physiologies and habitats compared to other captive mammals. This required Marineland's collectors to develop innovative techniques to collect and display the animals.

Not only did Marineland expand the animal collection tradition, it also employed techniques and strategies devised by animal collectors centuries earlier. Marineland's unique marine mammal displays and promotional material encouraged visitors to relate personally to the animals and transformed captive whales into celebrities. In her study of circus elephants, Susan Nance explains that the circus contributed to the creation of animal celebrities because captive animals were individually identified, named, and attributed distinct personalities. "Circuses did not invent human practices of imagining animals as totems or symbols, of course," Nance argues, "but American animal shows pioneered ways of adapting those habits to commercial purposes for a broad consumer audience."[27] In other words, animal celebrities allowed enterprises to capitalize on the public visual consumption of their identities and bodies through exhibits in circuses, zoos, and eventually oceanariums. By transforming its captured pilot whales

[26] Elizabeth Hanson, *Animal Attractions: Nature on Display in American Zoos* (New Jersey: Princeton University Press, 2002): 73-74.
[27] Nance, *Entertaining Elephants,* 4.

into celebrities, Marineland of the Pacific profited off visitors' enthusiasm for and relationships with the animals.

The collection crew and curators at Marineland were responsible for bringing unfamiliar animals to the park and its visitors, yet they also struggled with keeping the animals alive in captivity. Although Marine Studios existed when Marineland opened, it had little advice to offer on maintaining large marine mammal exhibits. Founded in 1938 in St. Augustine, Florida, Marine Studios was initially designed as a studio for filmmakers to record the underwater environment. The park's unexpected popularity among tourists and local residents, however, introduced oceanariums to the world. Different from aquariums, oceanariums were much larger and displayed a variety of marine life that included both fish and marine mammals.[28] Marine Studios had succeeded in capturing, training, and displaying Atlantic bottlenose dolphins to their visitors, but the park's early attempts to collect and display larger marine mammals failed. In 1948, when forty-six wild pilot whales stranded near Marine Studios, staff brought four of the animals to the park in hopes of saving them and displaying them to audiences. Only one young male, Herman, survived, and while he quickly adapted to feeding schedules and basic training, violent conflicts with dolphins caused the whale's death before he was ever presented to the public.[29] While Marine Studios displayed performing dolphins, Marineland of the Pacific was the first oceanarium to develop displays for large marine mammals, allowing audiences a peek into the underwater world and its inhabitants.

Writing in 1964, Craig Phillips, the former director of Miami Seaquarium and the National Aquarium, attributed the popularity of mid-twentieth century oceanariums to the

[28] Craig Phillips, *The Captive Sea* (Philadelphia: Chilton Company, 1964): 261.
[29] Kritzler, "Observations on the Pilot Whale in Captivity," 322-329.

public's fascination with the underwater world, "for, behind the dividing glass panel, is a world that man may view but not enter."[30] The displays at Marineland of the Pacific allowed visitors a glimpse into this hidden and largely inaccessible world. Jake Jacobs, the head diver at Marineland, explained that in the 1950s there were few opportunities for people to access the marine environment and "[a] visit to Marineland is as close as you can, without actually diving, to capture the feeling of being in a diver's lead-soled shoes...Like diving itself, Marineland exerts an unfailing fascination on those who love the ocean, and they come back again and again."[31] For those unable to actually immerse themselves in the ocean, Marineland's displays and research projects allowed them to experience an unreachable world and unfamiliar animals.

A Good Business Venture

The oceanarium industry provided opportunities for biologists and audiences to research and enjoy marine mammals, but to Phillips, the main reason to develop and expand oceanariums was profit. Such enterprises, he explained, provided "good business ventures in the field of public entertainment, owing first and foremost to the tremendous popularity which the public has accorded to the bottlenose dolphin and other trainable cetaceans."[32] As Susan G. Davis notes, wildlife park visitors have a desire to meet rare or special versions of "nature" and the ocean is the most exotic or inaccessible natural world for the general public; therefore, oceanariums held immense commercial potential.[33] For Henry U. Harris and a small group of investors, the oceanarium industry seemed an attractive investment in the mid-twentieth century, especially considering Marine Studios's earlier success. In 1949, Harris was a partner at a major Wall

[30] Phillips, *The Captive Sea,* 260.
[31] Jacobs, *Marineland Diver,* 17.
[32] Phillips, *The Captive Sea,* 261.
[33] Davis, *Spectacular Nature,* 11.

Street brokerage, Harris, Upham & Company, which his father founded two decades earlier. After the owners of Marine Studios approached Harris and explained the success of the oceanarium industry, Harris gathered investors and raised funds to establish an oceanarium on the West Coast.[34] Marineland opened August 28th, 1954, and quickly became a leader in family entertainment in Southern California. As the first modern theme park in Southern California, Marineland appealed to the postwar, prosperous baby boom families with its wholesome entertainment and affordable prices. The $3,500,000 oceanarium proved to be popular among both residents and tourists with almost 25,000 paying visitors attending the opening weekend to admire the "giant, evil-looking bat rays," "sea turtles 'too big to be real,'" "vicious moray eels" and "the 'clowns' of the [o]ceanarium...the porpoises."[35] Marineland's curator and collection crew ensured families continued to visit by improving exhibits and adding unusual and entertaining animals to the park.

[34] Patryla, *A Photographic Journey*, 2.

[35] "See Life Under the Sea at Marineland," *Palos Verdes News*, November 5, 1955: 28, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA; "Marineland Prepares for Saturday Debut," *Palos Verdes Daily Breeze,* August 27, 1954: 8, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA; "Untitled Article," *Redondo Beach Daily Breeze*, September 1, 1954: 4, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA; "Oceanarium Thrills California Viewers," *Christian Science Monitor, Boston,* September 10, 1954, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA. In 1954, admission prices were $2 for adults, $1 for servicemen and children aged 6 to 17. Children under 6 were admitted for free and not included in the attendance figures.

Figure 1. *Marineland of the Pacific.* 1954.

Norris was hired on as curator in 1953, a year before Marineland opened, with degrees in biology and desert zoogeography from the University of California, Los Angeles. At the time, he was two years into his doctoral work under renowned fish biologist Carl L. Hubbs at the Scripps Institution of Oceanography.[36] Reflecting on his interview at the park, Norris questioned why he was brought on as curator:

> I still wonder why they hired me. The manager who interviewed me later told me he felt I was terribly formal and "academic" and, considering the spotless new suit I was wearing and the way my hair was slicked down, he wondered if I would be any help with the rough outdoor work connected with assembling an exhibit.[37]

[36] Jarrell and Reti, *Kenneth S. Norris,* 2-3, 131-132.
[37] Norris, *The Porpoise Watcher,* 34.

In reality, Norris felt far more comfortable conducting outdoor fieldwork than wearing a pressed suit. The youngest child of a family of nature enthusiasts, Norris was born August 11th, 1924 in Hollywood, California. His family encouraged his early interest in natural history through family camping excursions, fishing trips, and an extensive lizard collection. Although Norris's background and education made him familiar with marine biology, he admitted not knowing "a damn thing" about curating marine exhibits for an oceanarium when hired.[38] Since Marineland was only the second oceanarium in the world, Norris and his animal collection crew had very little external advice to draw on and were often forced to improvise operations.

Norris and the collection crew were eventually responsible for introducing park visitors to pilot whales, false killer whales, killer whales, and walruses. First, though, Norris had to hire staff, coordinate the borrowing of several dolphins from Marine Studios, organize the construction of holding tanks for marine animals, and keep the manager's goldfish alive. The goldfish quickly died in Norris's care, "a matter of considerable embarrassment for one who planned to make the care and keeping of marine creatures his life's work," but he was far more fortunate in his hiring process.[39] Months before the park opened, Norris hired Frank Brocato and his godson Frank "Boots" Calandrino, both experienced fishermen, as members of his collection team. Norris, Frank, and Boots stocked Marineland's tanks with fish, lobsters, eels, and sharks, yet they had, their eyes on a much larger prize, a whale.[40]

At the same time, Norris was concerned with supplying the oceanarium with smaller marine mammals, specifically four Atlantic bottlenose dolphins on loan from Marine Studios. In Florida, Atlantic dolphins frequently enter the coastal maze of waterways where they can be

[38] Jarrell and Reti, *Kenneth S. Norris*, 15
[39] Norris, *The Porpoise Watcher*, 36.
[40] Ibid., 38-39; Branning, "Whale Done," 47-48, PVICA.

easily trapped with nets and scooped up onto waiting skiffs. In contrast, dolphins in the Pacific Ocean tend to live in the open waters and occasionally venture into large bays where they were difficult to contain with nets. With an opening date looming and no time to devise a dolphin collection strategy, Marineland of the Pacific offered a trade with Marine Studios. Jacobs explained that in exchange for a small stake in the newly established oceanarium, Marine Studios flew four dolphins from Florida to California, achieving the first cross country marine mammal transfer.[41]

The borrowed dolphins attracted audiences, but the poorly trained animals did not impress Norris. He noted they "did no more than feed from their trainer's hand and occasionally poke their heads out of the water."[42] Within a few months of Marineland's opening, Norris developed a training program that taught the dolphins to jump out of the water, respond to their names, and 'sing' for audiences.[43] Norris also recognized that relying on Marine Studios for dolphins was economically unsustainable, and began designing collection techniques to use on Pacific dolphins. While Marineland was a popular attraction, its distance from Los Angeles, which restricted access for many visitors who did not have cars, along with early administrative and technical problems, saw the park fail to produce a profit in its first two operating years.

In Norris's personal Marineland operations journal, he noted that purchasing a dolphin in 1953 cost almost $5000. Norris believed if the collection crew used devices of his design, including a tail grabber and stretcher, they could capture a dolphin for only $930.[44] Immediately after Marineland opened, Norris and the collection crew set out on dolphin collection expeditions

[41] Norris, *The Porpoise Watcher,* 53; Jacobs, *Marineland Divers,* 125.
[42] Norris, *The Porpoise Watcher,* 51.
[43] Marineland Notebook 1953, Norris (Kenneth S.) Papers, Box 66, 161, UCSCA.
[44] Ibid., 112-115.

along the California Coast. Dr. William N. McFarland, Norris's assistant biologist at Marineland from 1954 to 1958, explained that initial collection ventures involved harpooning dolphins near their dorsal fins. Then using a rope, the team pulled the animals towards the boat and hauled them aboard. Within a few months of Marineland's opening, several Pacific white-sided dolphins had been caught in this manner. Unfortunately, more than half of the dolphins died from infection attributable to harpoon wounds, requiring the development of new, less lethal capture technologies.[45] By 1955, McFarland, Norris, and Brocato had developed a technique for capturing dolphins without harpooning them. They constructed a U-shaped pole with a net attached to the end. When a dolphin swam through the U, the net unleashed and tightened around the dolphin's tail, lassoing the animal and allowing it to be hauled aboard the ship.[46] This technique was used until 1957, when the collection crew switched to corralling groups of dolphins with nets, facilitating the capture of several at once.

In January 1957, the collection team used two boats to encircle a group of Pacific bottlenose dolphins with a net and lifted the trapped animals aboard their ship. Although several dolphins drowned in the expedition, more successful excursions soon had Norris believing that "our mission was accomplished with much better success than we could have expected. We can now go out any time of year and have reasonable assurance of making a capture."[47] By developing their own reliable and cost-efficient capture process, Marineland pioneered capture technologies and allowed audiences affordable access to species not held in other oceanariums.

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[45] Jarrell and Reti, *Kenneth S. Norris,* 80-82; David H. Brown and Kenneth S. Norris, "Observations of Captive and Wild Cetaceans," *Journal of Mammalogy* 37, no. 3 (August 1956): 314.
[46] Jarrell and Reti, *Kenneth S. Norris*, 82; "Marineland Invents Device for Nabbing Dolphins," *Valley News,* August 18, 1955: 4.
[47] Field Notes 1949-1960, 300, Norris (Kenneth S.) Papers, Box 36, UCSCA.

The captive dolphins attracted large audiences to the park and inspired the collection crew to expand their expeditions to even larger and more impressive marine mammals.

Bubbles the Whale

During Norris's interview with Frank Brocato for the collector position, the two men discussed if it would be possible to catch a whale. "'Wouldn't *that* be something - to look through a window and see a whale swimming around?'" Brocato exclaimed.[48] At the time, Brocato was interested in catching a California gray whale, a species that had often collided with his fishing nets. After the successful capture of Pacific porpoises, Marineland's collection crew mapped a plan for capturing and displaying a live whale, but their size and protected status, declared by the International Whaling Commission in 1947, excluded the species from serious consideration. Instead, pilot whales drew Norris's attention. Pilot whales, technically part of the dolphin family, tend to travel in large pods and are roughly twenty-feet long, a size deemed manageable to capture and transport. While Norris's field notes and publications expressed his interest in observing wild pilot whales, and he conducted several studies on captive ones, they do not reveal whether corporate pressure or his own interest sparked the idea of a whale display.[49] Yet the idea of a whale exhibit thrilled Bill Monahan, Marineland's general manager, since no other oceanarium in the world had a whale on display. Monahan believed a whale would draw visitors to the park, boost the park's revenue, and confirm Marineland's status as the preeminent oceanarium in the world.[50]

With Monahan onboard, Norris combed archives and scientific journals for information on pilot whales, catching and transporting large marine mammals, and marine mammal

[48] Norris, *The Porpoise Watcher,* 38.
[49] Ibid., 71; Field Notes 1949-1960, 301, Norris (Kenneth S.) Papers, Box 36, UCSCA.
[50] Norris, *The Porpoise Watcher,* 71; Patryla, *A Photographic Journey,* 12-14.

husbandry, only to discover that no oceanarium had ever collected a whale at sea or successfully displayed one long-term. One aquarium in Japan briefly held a small Minke whale rescued from a net entanglement, while the pilot whales held at Marine Studios were rescued from a mass stranding, not caught in the open sea. None of these whales were ever displayed to a public audience. Norris also could not find any biological information about pilot whales outside a brief taxonomic description of the animal. The studies conducted on Marine Studios's whales were unreliable since they were based on stranded, dying whales and not free-swimming, healthy ones. Yet they did reveal pilot whales' apparent preference for squid over other prey.[51] Norris, Brocato, and Boots not only needed to invent collection and transportation techniques for the 1500-5000-pound animal, almost three times heavier than any porpoise in captivity, they also needed to learn about the species' habits, diet, and social behaviour to keep one alive in captivity.

Norris and his collection crew observed wild pilot whales at sea for several months before their capture expedition. They noted the bond between adult and young pilot whales, the species' hunting habits, their interactions with other dolphins, and the social hierarchy within pods.[52] The crew also developed capture equipment, including a suspended swordfish plank off the bow of the boat and a lasso net, and envisioned a variety of capture plans. Recalling their experience, Boots explained "[w]e had to improvise the whole operation because no one had

[51] Norris, "The Big One Got Away," Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, 3, UCSCA; "Rare Whale Lassoed, Taken to Aquarium," *Los Angeles Times* February 23, 1956, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59; Cuvier Beaked Whale Photos, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, 40-48, UCSCA; "Rare Baby Whale Captured Near Catalina Dies," Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA. Marineland made other attempts at displaying whales, including a stranded Cuvier's beaked whale in 1956 and a stranded infant Minke whale in 1958. Both whales died soon after they were captured.

[52] Brown and Norris, "Observations of Captive and Wild Cetaceans," 323-324.

ever done it before."[53] Without other oceanariums' experience or biological knowledge on the pilot whales, Norris, Brocato, and Boots initiated the now controversial whale capture industry and contributed immensely to the existing body of knowledge on cetaceans.

For Monahan, who had been hired as Marineland's vice-president and manager in 1956, the primary goal of a whale exhibit was to attract audiences and boost revenue. Consequently, observing pilot whales in the wild would contribute to their survival and management in captivity. Norris, however, was a researcher at heart and used his time at the oceanarium to further study cetaceans, in captivity and the wild, as well as to educate the public. He explained that although most other mammalogists involved in oceanariums would not have any interest in academia, he was "swept up in the discoveries and the joy of the work," and "started a publication series out of the oceanarium," to establish Marineland as not only a site of entertainment, but also as a scientific institution.[54]

Following the killing of the young male pilot whale in February of 1957, Marineland's collection crew continued their expedition in hopes of capturing a live pilot whale. Late night February 26th, after several weeks and multiple failed capture attempts, the crew came upon a pod of cruising pilot whales. Boots managed to lasso a net around one female whale, catching her on a rope connected to the boat. Although the whale attempt to extricate herself from the line by swimming quickly and diving, she could not break free. After several hours, the exhausted whale slowed and the crew lashed more nets and ties around her, immobilizing the whale before sliding her onto an inflatable raft and dry-docking her. Norris and the crew then towed the

[53] Branning, "Whale Done," 48, PVICA.
[54] Jarrell and Reti, *Kenneth S. Norris*, 17.

captured whale to Marineland's pier, lifted her into a truck, and delivered her, as Norris noted, "into the waiting arms of the public relations department."[55]

The whale made headlines in newspapers and journals across the United States including *LIFE* and *The New York Times*.[56] Articles updating the public on her diet, behaviour, and adaptation to captivity were published frequently. Originally named "Mabel," Marineland hosted a contest allowing visiting children to rename her. The newly named "Bubbles" was an "instant success," and within weeks of her capture she replaced porpoises on brochure covers and was headlining marine mammal performances.[57] Jacobs, the head diver, explained the public's reaction to the whale, stating "[w]e had expected a whale to be a great attraction, but the response was even greater than we had hoped for. Attendance had always been good, but now every day was like Sunday." He continued, "[a]s the only performing whale in the world, Bubbles was priceless. A poll taken among the visitors had shown that the great majority of them had come just to see Bubbles, that everything else was only an added attraction."[58] While Marineland was relatively popular, the oceanarium's strong focus on education in its first two years had seen the park struggle to make a profit. In 1956, Monahan urged the park to shift toward entertainment over education, improve publicity campaigns, and add new exhibits such as the pilot whale display. These transformations increased the park's profits, caused Marineland's annual attendance to exceed one million visitors in 1957, and propelled the park to new levels of fame.[59]

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[55] Norris, *Porpoise Watcher,* 80-81; Field Notes 1949-1960, 308, Norris (Kenneth S.) Papers, Box 36.
[56] "The Mammoth Moving of a Sea Mammal," *LIFE* 42, no. 15 (April 15, 1957): 75-79; "Whale of a Business," *New York Times* February 3, 1959, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[57] Norris, *Porpoise Watcher,* 82; Marineland of the Pacific Brochure, Millay Papers, Box 9, File 422, UCFA; Marineland of the Pacific Brochure, Collection of Materials Related to Marineland of the Pacific, Brochure File, Palos Verdes Local History Center.
[58] Norris, *Porpoise Watcher,* 82; Jacobs *Marineland Diver,* 163-166.
[59] Patryla, *A Photographic Journey,* 12-14.

Marineland of the Pacific's successful early capture of a live whale helped ignite the whale capture industry that continues today. *Westways,* a magazine focused on California recreation published by the Automobile Club of Southern California, referred to Bubbles's capture as "the most spectacular event in the history of oceanariums."[60] The capture and exhibit positioned Marineland as the greatest oceanarium in the world, not only because the remarkable whale display impressed audiences, but also because the collection team developed state-of-the-art technology and expanded the animal display industry. Furthermore, the capture and display of Bubbles launched a new animal celebrity for audiences to follow, care for, and relate to.

The Celebrity of Pilot Whales

Before "Flipper," "Shamu," or "Willy" swam into the spotlight, Bubbles was the aquatic celebrity everyone wanted to meet. Following Bubbles's popularity at Marineland, Monahan encouraged the collection crew to add more whales to the display. In July of 1958, a second female, "Squirt," joined Bubbles. Rumours circled that Bubbles was extremely sick, either from her habit of ingesting foreign objects or loneliness, and Squirt was captured in case Bubbles perished due to captivity.[61] Instead, Bubbles's health improved and Marineland now had two performing whales who delighted audiences. Less than a year later, a 17-foot, 3000-pound male pilot whale joined the female whales. Once again, Marineland encouraged visitors to name the new whale. Children picked three names that were placed in separate barrels and lowered into the whale tank, the male pilot whale swam up to one barrel and revealed the name "Mr. Bimbo."[62] The pilot whales' mere presence in the park encouraged public interest in the animals, but efforts by Marineland furthered their position in the spotlight. Marineland management

[60] Branning, "Whale Done," 48, PVICA.
[61] "Clever Comics of the Sea," *LIFE* 46, no. 7 (February 16, 1959): 98-99.
[62] David H. Brown, "Further Observations on the Pilot Whale in Captivity," *Zoologica* 47, no. 1 (May 1962):59; Patryla, *A Photographic Journey*, 25; Jacobs, *Marineland Divers,* 175.

boosted annual park attendance by encouraging visitors to make an emotional connection with the whales, through performances and publicity, and return to visit their new aquatic friend.

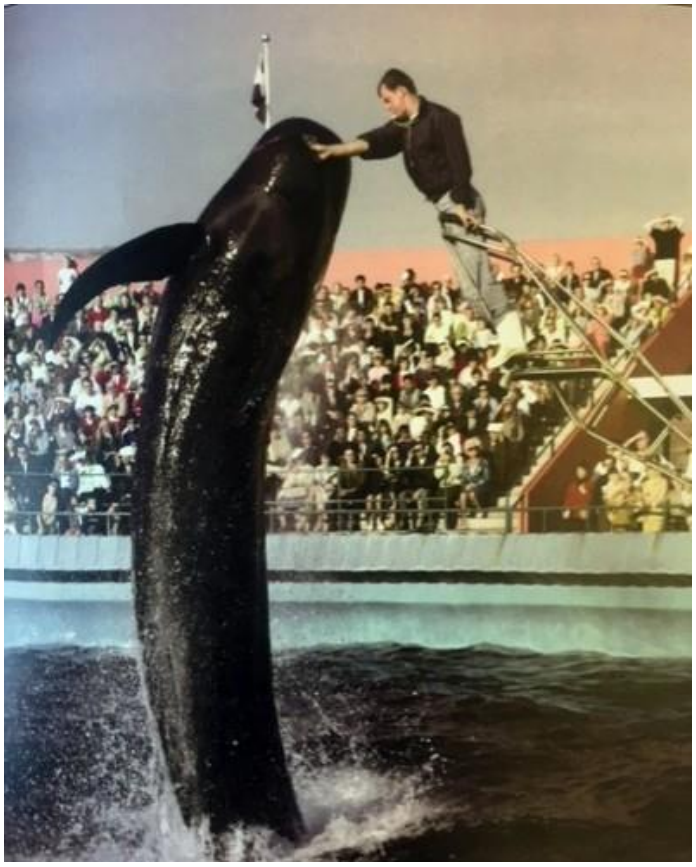

Figure 2. *Mr. Bimbo.* 1959.

David H. Brown, Norris's successor as curator and the eventual director of Marineland, believed that although marine research was important, Marineland itself was a "unique source of entertainment that captivates both young and old."[63] Bubbles, Bimbo, and Squirt were key components of this entertainment, their training responsible for performances that engaged and delighted audiences. Norris described Bubbles as an "apt and gentle pupil" who quickly learned dozens of tricks for her shows.[64] In a 1959 interview with the *Honolulu Advertiser,* Brocato

[63] Lou Jacobs Jr., *Wonders of an Oceanarium: The Story of Marine Life in Captivity* (California: Golden Gate Books, 1965): 6.
[64] Norris, "The Big One Got Away," 8, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.

listed Bubbles's skills as including: singing, waving, dancing, and punching a punching bag.[65] Craig Phillips confessed that he was enamoured with Bubbles and made a detailed record of her performance, describing that "besides leaping clear of the water for squid tidbits, she would hurdle a horizontal bar like a track star and wave her great flipper at the crowd for an encore."[66]

Bubbles's tricks were not limited to the tank; audience members were also encouraged to interact with the animal during the shows. Jim Patryla, a long-time visitor and eventual employee of Marineland, recalled that during each show an audience member was chosen to get their picture taken with the whale. As the audience member posed next to the tank, Bubbles jumped up and pulled a handle, triggering a Polaroid camera and allowing visitors to take home a souvenir image. This trick also encouraged visitors who were not selected to return to the park for their own chance at a whale photograph.[67] Bubbles's popularity was not restricted to Marineland employees who benefited from her fame or park visitors who directly interacted with the whale. With the help of children's books, visiting celebrities, and popular television shows, pilot whales were soon celebrated by people across the United States.[68] Newspapers, magazines, even children's letters, praised pilot whales' intelligence and charm - a sharp contrast to ongoing whaling expeditions which saw most cetaceans as resources to be killed and stripped of oil and meat.

As pilot whales' fame grew, other oceanariums felt compelled to display the species to meet audience demands, prompting Marineland to set up a domestic marine mammal

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[65] Bob Krauss, "In One Ear," *Honolulu Advertiser*, September 11, 1959: B-3, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[66] Phillips, *The Captive Sea*, 106.
[67] Patryla, *A Photographic Journey*, 17.
[68] Letter by James Weston Riley, January 13, 1960, Marineland Scrapbook 1960, Norris (Kenneth S.) Papers, Box 59, UCSCA. One of Bubbles' fans includes a 12-year old boy who wrote to Norris stating that he had saved $30 to help bring his family from Oregon to Marineland.

transportation system. In 1959, Marineland's collection crew caught and airlifted two young male pilot whales to Marine Studios in Florida as repayment for the Atlantic bottlenose porpoises loaned to the park earlier. The transfer also allowed more park visitors access to pilot whales, encouraging further interest in the species and increasing their popularity across the nation.[69] Patryla explains that the exchange program was beneficial since it attracted visitors, introduced more audiences to pilot whales, and provided "both oceanariums with exceptional show animals that were in short supply and hard to come by in each other's native water."[70] The marine mammal exchange shows marine parks' lucrative potential as both Marineland and Marine Studios were able to afford to capture and transport the whales across the country. Furthermore, the transfer also reflects the appeal of pilot whales, since Marine Studios went to great lengths to display the species.

Marineland and its inhabitants' commercial and popular success also stemmed from their television presence in the 1960s. Between 1964 and 1965, Marineland of the Pacific and Bubbles were featured in episodes of "The Beverly Hillbillies," "The Munsters," and "The Lucy Show."[71] These broadcasts served as national advertisements for Marineland, the oceanarium figuring as not just a background set for the story to play out at; instead, visiting Marineland was the main plot point. "The Lucy Show" even had Lucy tell the bank manager that her cash withdrawal for tickets was a necessity for a child's education, not a luxury.[72] Marineland's place on these

[69] Jacobs, *Marineland Diver*, 176; Kraus, "In One Ear," B-3, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[70] Patryla, *A Photographic History*, 27.
[71] "Lucy at Marineland," TV show, *The Lucy Show*, directed by Maury Thompson (California: Desilu Productions, 1965); "Marineland Carnival," TV show, *The Munsters*, unknown director (California: CBS Television Network, 1964); "The Clampetts Go Fishing," TV show, *The Beverly Hillbillies*, directed by Richard Whorf (California: CBS Television Network, 1964); "Back to Marineland," TV show, *The Beverly Hillbillies*, directed by Joseph Depew (California CBS Television Network, 1964).
[72] "Lucy at Marineland," TV Show.

popular television programs provided a dual function for the park and the shows. Davis explains that television shows "serve to advertise and promote the park as a tourist destination, while the theme park helps build an audience for the television programs." In other words, frequent visitors to the park might tune in to see how the shows featured their favourite place on the small screen. Alternately, those who had not visited Marineland before were encouraged to make a visit.

Television was not the only form of promotion Marineland used. In 1963, a children's book entitled *The Story of Bubbles the Whale* portrayed Bubbles's capture, her initial loneliness at Marineland, and her growing joy at performing for audiences, was published. Bubbles also starred in her own short film, *The Whale that Became a Star*, a silent black-and-white film produced by popular home video distributor Castle Films. Additionally, Marineland managers encouraged celebrities and politicians to visit and promote the park, with both Elvis and Prince Rainier III being photographed with Bubbles.[73] Marineland's promotion of the park and Bubbles was rewarded with the park's net profit totaling $639,899 in 1963. By 1964, Marineland had reached peak attendance levels at 1.4 million visitors.[74]

Pilot whales' popularity with audiences emboldened Marineland staff to expand the whale displays and seek even more impressive animals for their exhibits. On November 18th, 1961, when a lone female killer whale swam into Newport Beach Harbor, Boots and Brocato immediately took to the water in hopes of being the first team to ever capture an orca. In a reported "dramatic and dangerous three-hour battle," the collection crew managed to lasso the

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[73] *The Whale that Became a Star*, Film, (Castle Films, unknown date), Marineland of the Pacific Display, PVICA; Don Hackett, *The Story of Bubbles the Whale* (New York: Saalfield Publishing Company, 1963); *Marineland Elvis*, undated, Marineland Photographs, William Allan Walker (personal collection); *Prince Rainier*, undated, Marineland Photographs, William Allan Walker (personal collection).

[74] "Marineland of the Pacific Annual Report for the Year ended March 30, 1963," Edward Griffin Fonds, Box 2, File 2.6, University of Victoria Special Collection; Economics Research Associates, *An Economic Plan*, Economic Revitalization, II-1, Millay Papers, Box 9, File 423, UCFA. With inflation, Marineland's 1963 net profit equals over $5,000,000 in 2018.

"vicious killer whale," haul her ashore, and transport her to Marineland. Monahan told reporters that the newly captured whale was "more important than all the fish put together," and there was "no way to put a monetary value on her."[75] Marineland had reaped the benefits as the first oceanarium to capture and display pilot whales, but Monahan knew it would not compare to the prestige and revenue the park would achieve for featuring a killer whale. Although the animal died within eighteen hours of its collection, she was displayed for one day at Marineland, marking the oceanarium as the first to ever display a killer whale.[76] This incident inspired Marineland's capture crew to pursue the feared animal even further.

Several years earlier, Norris had gone on a reconnaissance trip to British Columbia to find out more about killer whales and the possibility of capturing one in Canada and flying it to California. Although Norris learned about orcas' diet, size, and year-round presence, as well as the Victoria airport's ability to handle large transport planes, Marineland did not pursue a killer whale display while Norris was employed at the park. In the summer of 1962, however, Boots and Brocato took up Norris's interest and travelled to Vancouver, B.C. to capture an orca. After several weeks, the crew lassoed a killer whale, but when the startled whale tangled the net around the boat's propeller, the frightened crew shot and killed the trapped orca.[77] The failed venture signalled the end of Marineland's orca capture expeditions and reaffirmed the belief that killer whales were too dangerous for captivity. Several years passed before any other oceanarium managed to accomplish Marineland's goal.

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[75] "5,000 See Killer Whale Captured at Newport," *Los Angeles Times* (November 19, 1961): A6; "Killer Whale in New Home at Marineland," *Los Angeles Times* (November 20, 1961): B1.
[76] "Captured Whale Dies -- of Old Age," *Los Angeles Times* (November 21, 1961): B1.
[77] Murray Newman, *Life in a Fishbowl: Confessions of an Aquarium Director* (Vancouver: Douglas & McIntyre, 1994): 82-83; Leiren-Young, *The Killer Whale Who Changed the World*, 10-11.

Despite Marineland's failure at capturing a killer whale, their continual success capturing pilot whales, as well as other unusual marine mammals such as a false killer whales and walruses, secured their place as the top oceanarium in the world until the mid-1960s. The park's inventive technologies and capture capabilities caused other oceanarium directors to look to the park for help in stocking their tanks with whales. In 1959, Solly Zuckerman from the London Zoological Society wrote to Norris asking for advice on developing a whale exhibit in Regent's Park or in Brighton, Sussex. Norris explained the advantages and disadvantages of both areas, and provided insight on size, accessibility, suitable animals, and collection methods.[78] Marineland's reputation as a leader in collection and display technologies was respected throughout the world, inspiring other animal display corporations and placing wild whales at greater risk of capture.

Marineland's experience capturing and training pilot whales, as well as its brief capture of a killer whale, also inspired other entrepreneurs to try to catch and display whales. Seattle's Ted Griffin held a lifelong passion for whales and a visit to Marineland in 1962 strengthened his dream of one day owning a pet whale. Griffin had doubts about the possibility of capturing and holding a killer whale, yet when he discovered that Marineland had briefly captured an orca, Griffin was "fired anew to find one," "befriend" it, and bring it to his newly established aquarium in Seattle.[79] It took several years, but in 1965 Griffin bought a captured whale from fishermen in Namu, B.C. and brought it to Seattle. Initially, Griffin desired to form a type of companionship with orcas, yet following Namu's death in 1966, he felt unable to connect with other killer whales. Griffin and his partner Don Goldsberry shifted their focus to the commercial potential

[78] London Zoo Correspondence, 1959, Norris (Kenneth S.) Papers, Box 90, File 27, UCSCA.
[79] Ted Griffin, *Namu: Quest for the Killer Whale* (Seattle: Gryphon West Publishers, 1982):7, 13.

orca captivity held and went on to capture, sell, and transport killer whales to oceanariums around the world.[80] Although Marineland initiated the collection and transcontinental shipping of large marine mammals, by 1965 the industry had expanded far beyond Marineland's control and capabilities.

Figure 3. *Dave Brown & Ken Norris.* 1954.

Competing Oceanariums

Marineland of the Pacific was extremely popular when it first opened in 1954, yet the park initially failed to produce a profit. The addition of pilot whales to the oceanarium, along with the publicity the television shows offered, saw Marineland reach peak attendance and revenue in the early 1960s.[81] Yet Sea World's opening in San Diego on March 21st, 1964,

[80] Griffin, *Namu,* 157-165, 221.

[81] Patryla, *A Photographic Journey,* 12; Economics Research Associates, *An Economic Plan,* Economic Revitalization, II-1, Millay Papers, Box 9, File 423, UCFA.

brought increased competition for the entertainment industry in Southern California. Sea World's new infrastructure, along with local newspapers announcing its opening with full page advertisements sponsored by construction companies, marinas, banks, and even the San Diego Transit System, quickly made it the most prominent oceanarium in the region.[82] Marineland needed to improve its own exhibits and thrill audiences with more impressive animals to compete with the modern oceanarium, but over the next few years the park struggled to obtain high-profile marine mammals.

Although Marineland was the first oceanarium to capture a killer whale in 1961, the park did not pursue killer whale captivity further for several years. Instead, the Vancouver Aquarium launched the killer whale capture in 1964 when, under the guidance of Dr. Murray Newman, the aquarium's collection crew accidently caught a live killer whale. The aquarium initially intended to kill an orca to use as a model for an art installation, but the harpooned whale survived and was brought back to Vancouver. Oceanariums from around the world bartered for the whale with Marineland's curator, Brown, offering $20,000 for the animal. When Victoria Undersea Gardens announced it would match Brown's offer, Brown "coolly responded by saying that Marineland would top *anyone's* offer, and backed up the threat by raising the ante to $25,000."[83] Unfortunately for Marineland, Newman recognized the benefits of displaying an orca in Vancouver and refused to sell the whale. Within a year of Moby Doll's capture, the killer whale capture industry took off, with Ted Griffin leading the way.

Griffin caught his second killer whale in 1965 and Sea World showed immediate interest. The new oceanarium bought the young whale named "Shamu" from Griffin and launched both

[82] *San Diego Union* (March 18, 1964): A22-A23., Marineland Scrapbook 1959-1963, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[83] Newman, *Life in a Fishbowl,* 89.

the park and species to new levels of fame.[84] Griffin continued supplying Sea World with killer whales for several years until the oceanarium developed its own collection process. In contrast, Marineland of the Pacific did not secure an orca until 1967, when Orky I was captured in Port Hardy, B.C. and chartered to Marineland. Over the next few years Marineland cycled through several killer whales since the animals frequently died in captivity, before successfully displaying Orky II and Corky II until the park's closure.[85] By then, however, Marineland had gone two years without displaying the signature species to audiences. This delay, along with the park's decrepit infrastructure, caused Marineland to fall from its position as a renowned oceanarium in Southern California.

Marineland's outdated facilities, comparatively high ticket prices, and limited animal displays and shows could not compete with the larger, updated Sea World. An Economic Revitalization Plan conducted for Marineland in 1971 opened by stating that, although the facility had "originally enjoyed excellent status as a commercial recreation attraction," for the past seven years it had fallen into disrepair and was "somewhat behind the times," "both obsolete in scope and style," and barely able to meet its expenses.[86] Since the park was not generating enough profit to justify the necessary repairs, its deterioration continued.

During its first fifteen years, Marineland revolutionized the animal display industry, developed innovative technologies, and inspired other oceanariums around the world to expand their own displays. The park introduced audiences to unfamiliar marine mammals and new forms of entertainment, yet it was unable to sustain itself in the face of competing, modern theme

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[84] Griffin, *Namu,* 162.

[85] Patryla, *A Photographic Journey,* 50. The original Orky died in 1969 while Corky I was captured in 1968 and died in 1970. They were replaced by Orky II, who died at SeaWorld San Diego in 1988, and Corky II, who is still in captivity at SeaWorld San Diego.

[86] Economics Research Associates, *An Economic Plan,* Economic Revitalization, I-1/II-1, Millay Papers, Box 9, File 423, UCFA.

parks. Although often overlooked, Marineland of the Pacific established the popular marine animal industry on the Pacific Coast and developed the capture and display technologies that promoted industry profitability and the commercialization of cetaceans for entertainment. Its technologies, marketing, and displays, inspired present-day enterprises that continue to grapple with issues of economic sustainability, public relations, feasible animal displays, and audience appeal.

Chapter Two: Psychotic, Depressed, or Just a Whale?

In 1959, producers from "Conquest," a CBS science television show, approached Ken Norris about filming an episode on dolphin communication at Marineland of the Pacific. Norris rejected the offer; instead, he suggested they produce a show featuring a blindfolded dolphin navigating a maze. While working with dolphins at Marineland, Norris had observed them emitting high-frequency sounds as they approached objects. He believed the dolphins were echolocating but had not yet conducted experiments to confirm the ability. The potential publicity from the television show convinced Marineland's general manager to provide Norris with the funding, space, and dolphin needed to test the species' echolocation abilities for the broadcast.[87] Echolocation is the ability to transmit sound waves that are reflected by objects, enabling toothed whales to navigate the underwater environment and locate obstacles and prey. These days, echolocation in cetaceans is well understood, but in the 1950s, it was little more than a theory in whale science.

Norris's first step in the experiment was to create a blindfold for a dolphin. After unsuccessful attempts using fabric wraps, adhesive tape, and harnesses, Norris's assistant, John Prescott, came upon a solution. "'What could be better,'" Prescott wondered, "'than to make the actual eye cup of that gay human deceiver, the all-American falsie?'"[88] Using bra padding and a jar of casting latex, Norris and Prescott fastened the newly created blindfold to Kathy, an Atlantic bottlenose dolphin described as possessing "a peppery sense of humor," and a "blind and friendly attitude toward humans."[89] With the blindfold in place, Kathy easily maneuvered

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[87] Jarrell and Reti, *Kenneth S. Norris,* 83; Norris, *The Porpoise Watcher,* 100. William E. Schevill and Barbara Lawrence conducted echolocation experiments six years earlier but the resulting conclusions were poorly published or understood. Norris came across Schevill's work after completing his own independent experiments.
[88] Norris, *The Porpoise Watcher,* 106.
[89] Ibid., 101.

around her tank before returning to Norris and Prescott. Over the next few weeks, Kathy navigated mazes, detected differences between fish and gelatin capsules, and located an inch-wide target from thirty-five feet away, all while blindfolded.[90] By confirming echolocation in cetaceans for the first time, Norris's research and discovery serves as an example of how early cetacean captivity led to critical developments in the marine mammalogy field.

Figure 4. *"Kathy" Presses the Lever Blindfolded.* 1959.

Prior to the onset of large-scale marine mammal captivity, biologists had limited access to live marine mammals; consequently, scientific knowledge of whales was restricted to a basic understanding of their anatomy and geographical distribution. As historian Kurkpatrick Dorsey explains, "whales did not have the decency to haul out on islands like seals, and dissecting one

[90] Norris, *The Porpoise Watcher,* 109-110.

was not exactly lab work."[91] Instead, marine mammalogists in the early twentieth century were forced to rely on inadequate wild observations, study carcasses on whaling ships or at factories, collect stranded specimens, or hunt their own cetaceans during this era of, what journalist Mark Leiren-Young refers to as, "slice-and-dice science."[92] In 1942, for example, Dr. Gordon Gunter, while working as a marine biologist for the Texas Fish, Game, and Oyster Commission, shot and killed thirty-seven bottlenose dolphins in the Gulf of Mexico to determine what the dolphins ate and whether or not they were a threat to the local commercial fishery. Gunter, a pioneer in fisheries science, discovered that the animals primarily fed on commercially unimportant fish. He concluded his research by stating "the population of bottlenose dolphins is not great and appears to have declined in the past 40 years on the Texas Coast. For these reasons the animal should be protected by Texas law."[93] In another instance, Dr. Charles F. Yocom observed the location and colouration of wild Dall's porpoises from a U.S. Navy ship in 1945, but the biologist admitted poor weather and distance between the ship and animals made it difficult to discern any details.[94] Without reliable and continuous access to cetaceans, marine mammalogists struggled to learn more about whales' physiology, social behaviours, and intelligence.

The expansion of the marine mammalogy field and techniques in combination with cetacean captivity is often overlooked in historical scholarship yet is critical to understanding the field's postwar transformation. In *The Structure of Scientific Revolutions,* philosopher Thomas S. Kuhn argues that science is not simply the accumulation of facts. Rather, fact-gathering is

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[91] Kurkpatrick Dorsey, *Whales & Nations: Environmental Diplomacy on the High Seas* (Seattle: University of Washington Press, 2013): 10.
[92] Leiren-Young, *The Killer Whale Who Changed the World,* 31.
[93] Gordon Gunter, "Contributions to the Natural History of the Bottlenose Dolphin, *Tursiops Truncatus* (Montague), on the Texas Coast, with Particular Reference to Food Habits," *Journal of Mammalogy* 23, no. 3 (August 1942): 275.
[94] Charles F. Yocom, "Notes on the Dall Porpoise off California," *Journal of Mammalogy* 27, no.4 (November 1946).

interrupted by fundamental shifts in scientific practice and thought. Such scientific revolutions cause scientists "to see nature in a different way," reinterpret available data, discover unfamiliar phenomenons, and alter the way scientific work is accomplished.[95] The mid-twentieth century development of marine mammal captivity caused such a revolution in cetology. As oceanariums allowed scientists unprecedented access to live whales and dolphins, marine mammalogists were no longer confined to only observing cetaceans' distinct physiological features or geographical ranges, spawning new questions about their intelligence, abilities, behaviours, and social structures. By allowing unhindered, ongoing access to cetaceans, oceanariums provided scientists with the opportunity to revolutionize the marine mammalogy field and dramatically advance cetacean knowledge for scientists, animal display workers, and the general public.

Care and Keeping of Cetaceans

When Marineland of the Pacific opened in 1954, Norris admitted, "I found myself in total terra incognita. Nobody knew anything about the marine mammals that went by our door."[96] Despite his extensive education in biology and zoogeography, Norris struggled with the scarcity of information on marine mammals. Although some research on bottlenose dolphins conducted at Marine Studios had gathered insight on intelligence, reproduction, and social interaction, especially through Dr. John C Lilly's neurological experiments, questions about basic animal ecology persisted.[97] Wondering how many pounds of fish would satisfy the animals during winter, for example, Norris discovered that spotted dolphins and bottlenose dolphins had different fish preferences.[98] Although mundane, these examinations provided fundamental

[95] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996): 53.
[96] Jarrell and Reti, *Kenneth S. Norris*, 16.
[97] John C. Lilly, *Man and Dolphin* (New York: Doubleday & Company, Inc, 1961): 59-87.
[98] Marineland Notebook 1953, 53, Norris (Kenneth S. Papers), Box 66, UCSCA.

information about dolphin feeding habits that wild observations could not reveal. Diet was a critical part of learning about cetaceans and caring for them in captivity, but Marineland staff also needed to understand more complex issues generated by captivity and human-animal interactions.

Although captivity allowed Marineland personnel to study cetaceans closely, it also raised concerns about animal husbandry techniques at marine parks. The 1965 book sold at Marineland of the Pacific's gift shop, *Wonders of an Oceanarium: The Story of Marine Life in Captivity,* presented a behind-the-scenes look at the park. In the book's foreword, David H. Brown describes Marineland as having "pioneered a program of basic research which provides answers to many of the problems associated with an intriguing, but poorly understood, field of animal husbandry."[99] Close human-cetacean interactions at oceanariums allowed scientists to uncover essential information about the animals, but also created new sites of disease transmission and an increased demand for improved animal husbandry skills; such skills were largely in their infancy during Marineland's early operating years.

In the first few months of Marineland's opening, over half of the park's newly caught dolphins died. Wounds sustained during the dolphins' traumatic captures caused the majority of these deaths, yet several died even after their injuries had healed. When Dr. William F. McFarland performed an autopsy on one recently deceased dolphin, he noticed severe congestion in the animal's lungs. McFarland collected a sample of the bacteria and sent it to a laboratory for investigation where it was determined that the dolphin had pneumonia. The results were further confirmed when both McFarland and Norris came down with the same bacterial infection. McFarland and Norris soon discovered that visitors were spitting into the dolphin tanks before

[99] David H. Brown, foreword to *Wonders of an Oceanarium: The Story of Marine Life in Captivity,* by Lou Jacobs Jr (California: Golden Gate Books, 1965): 6.

shows, causing human-borne illnesses such as pneumonia to spread to the dolphins. The pair decided to inject antibiotics into all dolphin food to combat the spread of disease, a practice still carried out at oceanariums, and the deaths quickly ceased.[100]

The early years of cetacean captivity required animal husbandry skills to advance to ensure the commercial success of marine parks, the continued survival of captive animals, and the advancement of marine mammalogy. Alexandra Morton, a biologist who worked as Lilly's assistant and also studied orca communications at Marineland in the 1970s, observed several animal deaths while she worked in the oceanarium world because of the lack of marine mammal knowledge. She notes, "[j]ust as the science on marine animals was in its infancy, so was the husbandry required to keep them alive." As a consequence, Morton asserts "[t]he keeping of whales in captivity far outpaced any understanding of what they needed to survive. Sadly, our knowledge of how to keep these creatures alive has been built on a heavy death toll"[101] Yet, animal care practices and fundamental knowledge about marine species went hand in hand. Although studies on captive cetaceans could not reveal natural wild behaviours, the cetology field in the 1950s was so rudimentary that Marineland's research on diet, breathing rates, and diving and swimming capabilities contributed greatly to the field. As animal husbandry at oceanariums developed, for example, with improved disease prevention methods and understanding of animal diets, biologists also gathered broader understandings about marine life and marine mammal physiology. Marineland staff also generated comprehensive medical histories of the park's animals which helped develop treatments for diseases commonly found in captive cetaceans, such as kidney stones, stomach ulcers, and liver cirrhosis. While treatments

[100] Jarrell and Reti, *Kenneth S. Norris,* 81-82.
[101] Alexandra Morton, *Listening to Whales: What the Orcas Have Taught Us* (New York: Ballantine Books, 2002): 50.

for captive-borne diseases do not benefit wild whale and dolphin populations, they do benefit rescued animals and in the mid-twentieth century they furthered general understanding of cetacean body systems, the development of diseases, and cross-species contamination.[102]

Diseases were not the only captivity-based problem staff confronted at Marineland of the Pacific. On June 11, 1957, Bubbles swallowed a rubber inner tube used as part of her training program. Ingesting foreign objects was a common problem in oceanariums, resulting in several animal deaths at both Marineland and Marine Studios. Bubbles's popularity and value, however, increased pressure on Marineland staff to find a solution since the park could not risk losing their star attraction. In a letter to digestive system specialist Dr. William W. Lermann, Marineland's manager, William F. Monahan, explained that staff had consulted with large-animal veterinarians across the country. Although none had experience with whales, the veterinarians agreed that staff should administer apomorphine to Bubbles to induce vomiting. The medication had no effect and Marineland staff decided to give Bubbles a gallon of mineral oil over several days in hopes of breaking down the inner tube's rubber. Instead, the oil acted as a lubricant and two weeks after Bubbles first swallowed the inner tube, it appeared, fully inflated, in her tank. Having been treated, Bubbles returned to her normal feeding habits and the mineral oil treatment continued to be used successfully on other cetaceans.[103]

Although little was learned about the pilot whale species from this particular distinct incident, it highlights the importance of animal husbandry techniques in ensuring animals survive in captivity for entertainment and future research. Successful animal husbandry skills allowed scientists to conduct long-term studies on whales and dolphins, studies that could not be

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[102] Patryla, *A Photographic Journey*, 28.

[103] Letter from William F. Monahan to Dr. William W. Lermann, July 19, 1957, Norris (Kenneth S.) Papers, Box 82, File 22: Research: Globicephala, UCSCA; David H. Brown, "Behavior of a Captive Pacific Pilot Whale," *Journal of Mammalogy* 41, no. 3 (August 1960): 345.

achieved in the wild because the tracking and identification technology did not yet exist. The animal husbandry improvements made at Marineland of the Pacific were essential to ensuring the survival of recently captured animals and also contributed to enhanced understanding of cetaceans and allowed for in-depth scientific research. Improved animal husbandry skills did have the unfortunate consequence of allowing more whale captures to take place, but captivity also taught many scientists about the intelligence and needs of cetaceans inspiring many, such as Morton and Paul Spong from Vancouver Aquarium, to rally against whaling and captivity in later years.

Marine Mammal Discoveries

For Norris, Marineland of the Pacific served as a scientific institution that promoted research and investigation into aquatic sciences, cetaceans, fish, and invertebrates. In his park operations journal, Norris expressed his belief that independent scientific investigators should be invited to conduct research at the park. Researchers were screened by Scientific Advisory Board members, which included renowned ecologist Dr. W. C. Allee and ethologist Dr. Frank A. Beach. The selected investigators gained access to Marineland's animals, facilities, and equipment and were expected to develop publishable material on water chemistry, husbandry techniques, and animal behaviour. Some visiting researchers were even funded by the oceanarium.[104] Norris established this vision of Marineland of the Pacific not only as a site of family entertainment but also an esteemed scientific institution with his own research on the park's whales and dolphins.

Like animal husbandry skills, knowledge about wild marine mammals was also limited in the mid-twentieth century. In preparing to capture Marineland's first pilot whale in 1957, Norris

[104] Marineland Notebook 1953, 171-172, Norris (Kenneth S.) Papers, Box 66, UCSCA.

realized little information existed about the species in scientific journals or texts. In the months leading up to Bubbles's capture, Norris gathered foundational information about pilot whales by observing their behaviour in the wild. Norris's discoveries included pilot whales' seasonal residence along the California coast, infants' colouration, and schooling behaviours of large pods.[105] These findings revealed previously unknown information about the species, yet detailed observations about whale cognitive abilities and social interactions could not be obtained in the wild. For example, Norris noted that several species of dolphins accompanied the pod of pilot whales and believed the relationship between the species was based on the dolphins benefitting from the whales' efficient hunting techniques. Later in captivity, however, pilot whales and dolphins were observed interacting and developing a relationship not based on hunting. Close studies of Bubbles and other captive pilot whales at Marineland continued to bring new revelations about the species and transform the way scientists thought about and studied cetaceans.

Once Bubbles was captured, Norris initiated experiments based on determining cetacean physiology, intelligence and abilities. The first of these involved Norris performing an electrocardiogram (ECG) on the captive animal. An ECG records the subject's heartbeat speed, rhythm, strength, and electrical activity. Biologists working at whaling factories could not produce ECGs since they primarily studied whale carcasses and the only attempt to conduct an ECG on a wild beluga in 1953 resulted in the animal's death.[106] With Bubbles confined to a tank, Norris had the unique opportunity to monitor the whale's heart activity without harpooning or severely injuring the animal. Unfortunately, Bubbles did not appear aware of the gravity of the

[105] Norris, *The Porpoise Watcher,* 72-74.
[106] Robert L. King, James L. Jenks Jr., and Paul D. White, "The Electrocardiogram of a Beluga Whale," *Circulation,* no. 8 (September 1953).

research. Divers successfully inserted electrodes into Bubbles via hypodermic needles but when the electrodes came loose, Bubbles refused to let any divers near her to reinsert them. Instead of attempting to restrain Bubbles and force her to comply, Marineland personnel decided to abandon their ECG attempts in favour of less invasive research.[107]

In a later study, Norris recorded Bubbles's swimming speed as she chased a dolphin around the tank. Norris admitted there was a "considerable margin for error" in his recording methods, but it seemed "reasonable to say the animals were swimming in a tight circle at a rate of at least 20 knots."[108] Norris's study showed the whale's ability to maneuver in a confined area, which provided information about the species' ability to chase prey, a challenging study in the wild because of weather, visibility, and difficulty tracking the animal. Although some of the research at Marineland was unsuccessful or limited by the nature of captivity, failures are a critical part of the scientific investigations since they still reveal information and contribute to the development of new experiments and studies. Marineland researchers recognized that while captivity created unnatural circumstances for the animals and limited some research, it also allowed for the opportunity to closely observe cetacean physiology, social interactions, and behavioural responses.

Several years prior to Bubbles's capture, aggressive behaviour by dolphins at Marine Studios had caused the death of the park's rescued pilot whale discussed earlier. Accordingly, Marineland personnel initially kept Bubbles isolated from other cetaceans.[109] For the first fourteen months of her captivity, Bubbles's only tank mates were turtles, rays, and human divers.

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[107] "Observations on the Behavior of Sub-Adult Female Pilot Whale in Captivity. Captured February 28,1957," 1956-1965, Norris (Kenneth S.) Papers, Box 82, File 22: Research: Globicephala, UCSCA.
[108] "Pacific Pilot Whale," 1956-1965, Norris (Kenneth S.) Papers, Box 82, File 22: Research: Globicephala, UCSCA.
[109] Kritzler, "Observations on the Pilot Whale in Captivity," 329; David H. Brown, "Behavior of a Captive Pacific Pilot Whale," 343.

At first, Bubbles displayed friendly behaviour towards divers entering her tank, gently taking fish from them and responding to commands. After a year without the companionship of other whales, Bubbles's behaviour toward divers changed. Beginning in March 1958, she became increasingly aggressive. She snapped at divers when they attempted to feed the other animals in her tank and eventually started ramming divers. In one incident, Bubbles attacked visiting photographers, snapping her teeth at them and chasing them around the pool, causing them to abandon their equipment and retreat from the tank. Just days later, Bubbles rammed another diver, causing him to briefly lose consciousness in the tank before he was rescued. This final incident compelled Brown to suspend all diving operations indefinitely.[110]

Figure 5. *Dave Feeds Bubbles for the First Time.* 1957.

Jake Jacobs thought Bubbles had lost respect for human divers and was trying to establish dominance in the tank. He believed the divers just needed to "show her who was boss," by striking her with a metal rod when she attempted to attack a diver, and she would remain "under

[110] Jacobs, *Marineland Diver,* 168-169; Brown, "Behavior of a Captive Pilot Whale," 347.

control," and avoiding considering the psychological consequences of his treatment of Bubbles.[111] Brown, however, consulted with Marine Studios and learned that one of their bottlenose dolphins kept in isolation had also exhibited aggressive behaviour towards humans. Following this discovery, Brown researched the social structure of dolphins and discovered that "enforced solitude of this nature may prove disagreeable to the species" and since "social behaviour in pilot whales was just as well developed as in smaller species," "enforced solitude may prove equally disquieting."[112] By July, Brown moved Bubbles to another tank containing two striped dolphins and a recently captured female pilot whale, Squirt. In the wild, Norris had observed pilot whales swimming with large pods and other dolphin species. Yet in captivity, the small dolphins appeared to tease or 'torment' the pilot whales by biting their fins and swimming away, but Squirt and Bubbles were frequently seen swimming side by side, rubbing against one another, and vocalizing.[113] With Bubbles no longer exhibiting aggressive behaviour towards divers, Brown reinstated diving operations and Marineland personnel started recognizing how critical companionship was to cetaceans.

Staff and researchers were excited about the prospect of observing mating behaviours between pilot whales when Bimbo joined the other pilot whales at Marineland in 1959. Although Marineland's pilot whales never became pregnant, Bimbo's addition to the tank clarified a behaviour Bubbles frequently displayed. In a seemingly hostile act, Bubbles often headbutted divers who entered her tank, but Norris offered an alternative interpretation after he observed similar behaviour with Bimbo. In an unpublished report, he described Bubbles and Bimbo making loud calls to each other from opposite sides of the tank before swimming straight

[111] Jacobs, *Marineland Diver,* 171.
[112] Brown, "Behavior of a Captive Pilot Whale," 347-348.
[113] Ibid., 348-349.

towards each other and ramming into one another head-on. Norris noted, "the impact was so great that shock waves could be seen travelling down the bodies of both animals, and the smaller female was forced back a few feet."[114] While this behaviour could still be seen as aggressive, the whales were later spotted exhibiting overt sexual behaviour.[115] Through observing Bubbles and Bimbo's interactions, Marineland staff realized Bubbles's earlier behaviour was not aggressive, but may have been friendly, or "a whale's way of making love."[116] By closely observing and reinterpreting such behaviour, Marineland personnel launched an era of scientific studies focused primarily on understanding whale and dolphin social interactions.

In 1960, Norris left Marineland to teach at the University of California Los Angeles and Brown took over as park curator, continuing to emphasize research on social interactions among cetaceans. The whale tank at Marineland provided multiple opportunities for him, along with cetacean behavioural studies specialists Melba C. Caldwell and David K. Caldwell, to conduct comprehensive investigations into whale social structures. One opportunity came in the early morning of March 8, 1960, when staff entered the whale holding area to find Bimbo grasping a lifeless Bubbles by her flippers and towing her around the tank. One diver entered the tank to remove Bubbles but Squirt and Bimbo, the latter having never exhibited aggression towards humans before, attempted to strike the diver. The whales rejected all attempts to lure them away from Bubbles but after multiple attempts, the diver successful removed the deceased whale from the tank.[117]

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[114] "Pacific Pilot Whale," 1956-1965, Norris (Kenneth S.) Papers, Box 82, File 22: Research: Globicephala, UCSCA.

[115] Brown, "Further Observations on the Pilot Whale in Captivity," 60.

[116] Jacobs, *Marineland Diver,* 168.

[117] Brown, "Further Observations on the Pilot Whale in Captivity," 63. Another female pilot whale was later renamed Bubbles, she lived in captivity at Marineland of the Pacific and SeaWorld until her death in 2016.

At the time of Bubbles's death, she, Bimbo, and Squirt had all lived together for more than a year. They appeared closely bonded as they frequently swam together, vocalized, and rubbed against one another. Yet Marineland staff were surprised at the behaviour displayed by Bimbo, since long-term aiding behaviour is significantly rarer in male cetaceans than females. Similar behaviour between cetacean mothers and calves had been observed often in the wild, but Bimbo's response was unique since he was a mature male and not related to Bubbles. Brown initially proposed that Bimbo's behavior was a direct response to the stressful and confining quarters of captivity, but later interactions caused the curator to reassess his conclusions.[118]

Several years after Bubbles's death, "Debbie," a striped dolphin who had lived with Bimbo and Squirt for over three years, died in their shared tank. Marineland personnel reported Bimbo swimming around the tank, holding the deceased dolphin by its fins and tail for hours. When a diver entered the tank to remove the dolphin, two female pilot whales tried to block his access to Bimbo and Debbie. The diver was able to successfully harpoon Debbie, but when the dolphin was hauled out of the pool, Bimbo launched himself out of the tank, grasped Debbie, and pulled her back into the tank. A second attempt to remove the dolphin was also blocked by Bimbo. On their third attempt, Marineland divers managed to harpoon and remove Debbie from the tank. Bimbo reportedly responded with loud, shrill cries, but calmed within an hour and resumed performances the next day.[119]

Marineland researchers made several observations based on Bimbo's reactions to Bubbles's and Debbie's deaths. Most notable was the idea that cetaceans could recognize and form attachments not only to individuals from their own species, but also other species. One

[118] Brown, "Further Observations on the Pilot Whale in Captivity," 63.
[119] Melba C. Caldwell, David H. Brown, and David K. Caldwell, "Intergeneric Behavior by a Captive Pacific Pilot Whale," *Contributions in Science* no. 70 (October 1963): 4-8.

article published on Debbie's death noted that Bimbo displayed several signs indicating an emotional connection to the dolphin. First, Bimbo's gentle handling of the body was "particularly striking and showed the most careful deliberation."[120] Despite carrying the dolphin around for hours, the only marks on her body came from the moments when Bimbo prevented divers from removing Debbie from the tank. Second, Marineland personnel observed Bimbo's startled expression, an automatic response to emotional stress exhibited in both humans and animals. Finally, before Debbie's death another female pilot whale died in the same tank as Bimbo. Yet Bimbo had only known the whale for ten days and completely ignored the body. These observations together suggested that cetaceans could form long-time attachments with individual animals and exhibit both affection and grief for other animals.[121]

The complex social interactions observed at Marineland spurred a dramatic paradigm shift in marine mammalogy as scientists expanded their studies beyond physiological research. In addition to studying breathing rates, swimming speeds, or diving capabilities, scientists at Marineland explored the social and emotional intelligence of cetaceans. While pilot whales' adaptation to captivity and quick responses to training were apparent from Bubbles's first days of captivity, the social complexity of the species was less well known.[122] From their observations, Marineland personnel saw whales and dolphins not only as anatomically unique, but also as socially and emotionally complex. By studying intra- and interspecies social interactions and relationships, researchers at Marineland made tremendous advancements in cetacean sciences and the field of behavioural studies. Doubts about cetacean emotional intelligence persisted, but

[120] Caldwell, Brown, and Caldwell, "Intergeneric Behavior by a Captive Pacific Pilot Whale," 9.
[121] Ibid., 9.
[122] Brown, "Behavior of a Captive Pilot Whale,"346; Brown, "Further Observations on the Pilot Whale in Captivity," 60.

by the end of 1962, Marineland staff acknowledged the importance of social interactions among cetaceans. Yet Bimbo's behaviour continued to prove difficult for researchers to interpret.

Complications in Captivity

In December, 1963, Marineland captured a Pacific common dolphin, who joined Bimbo, a female pilot whale, a false killer whale, and several species of dolphins in the oceanarium's main pool. Two months later, to the surprise of Marineland staff, the dolphin went into labour and struggled to deliver a stillborn calf. One striped dolphin exhibited familiar aiding behaviour by pulling the calf free from the mother. The mother brought the dead calf's body to the surface but she was interrupted by Bimbo who grabbed the calf, carried it around the tank for over thirty minutes, and eventually devoured the carcass. The mother dolphin appeared distressed for several minutes as she whistled and swam around the tank, before calming and delivering the afterbirth with the help of a false killer whale.[123] Bimbo's behaviour was especially puzzling considering he had previously shown cross-species mourning behaviour, but Brown, Caldwell, and Caldwell mention Bimbo's volatile behaviour had increased over the previous year, culminating with him attacking and killing one female pilot whale.[124]

When initially captured, Bimbo's calm demeanour surprised Marineland personnel. Although the large male was "unmistakably a bull," he was not aggressive and appeared far more "placid and tractable than Bubbles."[125] Bimbo, however, seemed to never fully recover from the loss of Bubbles and Debbie. Months after Debbie's death in 1962, Marineland personnel described Bimbo as behaving in "a psychotic manner," with "aggressive asocial activity."[126] He

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[123] David H. Brown, David K. Caldwell, and Melba C. Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales, with Notes on Associated Behavior of Other Genera of Captive Delphinids," *Contributions in Science* no. 95 (April 1966): 7-12.
[124] Ibid., 25.
[125] Jacobs, *Marineland Divers,* 175.
[126] Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 25.

lost his appetite, refused to perform, and lashed out at tank mates with whom he had previously lived peacefully. Brown's first attempt in administering antidepressants to the whale seemed successful, but after one week of calm behaviour, Bimbo attacked and killed a female pilot whale, throwing the 780-pound whale out of the water and causing heart damage and multiple bone fractures.[127] Brown then turned to other cetaceans to help soothe the distressed whale.

Brown partly drained Bimbo's tank, stranding the pilot whales and allowing the dolphins to swim and nuzzle against Bimbo in an "obvious attempt to help and soothe him."[128] Marineland personnel believed "a common stress conjointly shared might re-establish the strong relationship normally so evident in this gregarious species."[129] Not only did researchers recognize how essential the complex social structure of cetaceans was to their well-being, they also believed these social bonds could help heal emotional distress. Their theory was correct, to an extent. Aside from the incident with the dolphin calf, Bimbo displayed no further aggressive behaviour towards other animals, yet he still refused to eat and was removed from daily performances. Brown then returned to medication in hopes of curing the whale's apathy. By the end of 1963, Bimbo had lost more than 500-pounds, becoming dangerously underweight. Consequently, Brown administered the whale 6,000 milligrams of an antidepressant in hopes of boosting his appetite. Within a day, Bimbo's spirits improved and he began eating again.

Bimbo was the first cetacean to receive antidepressants at Marineland of the Pacific. Although his treatment initiated the now, routine procedure of administering mood stabilizers to cetaceans, it is evidence that the belief that cetaceans were aware of their captivity and could feel depressed had gained traction. While in the twenty-first century, there is little doubt about

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[127] Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 25.
[128] Duane Valentry, "Big Star All at Sea," *Sea Frontiers* no. 15 (1969): 223.
[129] Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 25.

animal's cognitive abilities, the idea of cetaceans having a conscious mind of their own, and not just reacting instinctively, was uncommon in the mid-twentieth century. *Wonders of an Oceanarium* reaffirms the belief that cetaceans respond emotionally to their surroundings when Jacobs explains that Bimbo was provided medications, "the same kind doctors give to people with mental breakdowns," and to Bimbo, "life in captivity seemed to have affected the whale's mind" since after some time, "a tank may begin to seem like a prison."[130] While scientific articles were more restrained, they also recognized that Bimbo's apparent depression could not be attributed to any disease or infection. Instead, Marineland researchers suggested that Bimbo's volatile behaviour came from the environmental stress caused by participating in performances.[131]

Less than a decade of whale captivity had caused a complete transformation in scientific and public understanding of cetacean social and emotional intelligence. At a time when active whaling was taking place only hours away from Marineland and marine mammalogists were often required to hunt and kill their own specimens, Marineland personnel were not only considering the social bonds among whales and dolphins but also the psychological harm that captivity could do to cetaceans. Recent investigations into oceanariums, specifically the popular documentary *Blackfish*, have highlighted the stressful and harmful conditions of captivity.[132] For many, the notion of emotional and social intelligence in cetaceans is obvious, yet scientists and ethicists have debated the idea of animal consciousness for centuries. While Marineland researchers were starting to consider cetaceans' mental states in the 1960s, it took until 2012 for a group of neuroscientists, in the presence of Dr. Stephen Hawking, to sign the Cambridge

[130] Jacobs Jr., *Wonders of an Oceanarium,* 67.
[131] Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 26.
[132] *Blackfish,* directed by Gabriela Cowperthwaite (2013; New York, NY: Magnolia Pictures).

Declaration on Consciousness and confirm that non-humans were conscious beings.[133] Although labelled both psychotic and depressed by Marineland personnel, Bimbo's behaviour in the 1960s was not seen as that of a mindless animal but the expressions of a conscious creature in distress.

Bimbo's erratic behaviour continued, and on June 6th, 1967, instead of performing his usual leap and splash at the end of the whale and dolphin performance, Bimbo charged an observation window in his pool and crashed through the double-paned glass. Four visitors were knocked down, over 300,000 gallons of water drained from the whale tank, and Bimbo suffered several lacerations. The American Humane Society investigated the collision, a spokesperson suggested Bimbo had been frightened and, similar to a spooked horse, reacted instinctively. In response, Monahan stated that Bimbo could not be compared to a horse since he was more intelligent and reasonable. Rather, Monahan believed Bimbo's collision was "just a freak error." After all, "why should he want to escape?"[134] The tank was repaired the show went on, but behind the scenes, Marineland staff were hard at work planning Bimbo's future.

With Bimbo noticeably struggling in captivity, Marineland personnel decided it would be best to release him back to the wild. His erratic behaviour, along with his large size, placed Marineland at risk, both financially and publicly. Staff moved Bimbo to isolation and he underwent a multitude of physical tests to get him ready for release.[135] In early July, Bimbo was brought back to Catalina Channel, his capture site from eight years earlier, and released into the open ocean. The release seemed successful, with Bimbo immediately joining a pod of pilot whales. Although other research facilities released several dolphins in earlier years, none

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[133] Philip Low and Christof Koch,"Cambridge Declaration on Consciousness," (signed at Francis Crick Memorial Conference on Consciousness in Human and non-Human Animals, Cambridge, UK, July 7, 2012), http://fcmconference.org/img/CambridgeDeclarationOnConsciousness.pdf

[134] Dial Torgerson, "Why did Bimbo Shatter Glass Window?" *Los Angeles Times,* June 6, 1967.

[135] Valentry, "Big Star All at Sea," 223.

conducted follow-up studies and the animals' survivals were never confirmed. Marineland employee John Prescott later claimed to spot Bimbo swimming off the California Coast in 1969 and 1974. While it is possible that Prescott recognized Bimbo, pilot whale pods traverse the Pacific Coast and cetacean identification through scars and markings was uncommon in cetacean sciences until the 1980s. It is likely that Prescott did not see Bimbo, but instead, another large pilot whale and sought to improve Marineland's standing by capitalizing on growing save-the-whales and anti-captivity movements of the early 1970s.[136] Yet some believe that Marineland of the Pacific's release of Bimbo was the first successful reintroduction of a cetacean back into the wild.

By the late 1960s, increased competition from other marine parks saw Marineland of the Pacific start to struggle financially. In an attempt to improve their finances, the park further emphasized entertainment at the cost of research and education efforts. Although Sea World's opening in 1964 caused Marineland of the Pacific's revenue and popularity to decline, Bimbo's release in 1967 could have reaffirmed the oceanarium as a leader in cetacean research. His reintroduction showed potential opportunities for breeding and release, as well as endorsed life in captivity as comparable to the wild. Years earlier, Marineland managers and employees prided themselves on cetacean research and education. Yet by 1967, personnel appeared concerned about what scientific research or behind-the-scenes information was released to the public. Marineland published little about Bimbo's behaviour, training program, or reintroduction, instead, Marineland personnels' focus shifted to ensuring the park had effective animal husbandry techniques and entertaining shows. Since Bimbo no longer enhanced Marineland's image of wholesome entertainment, he was largely ignored and then quietly removed from the

[136] Dorothy Townsend, "'Psychotic' Bimbo Banished, Returned to Old Sea Haunts," *Los Angeles Times,* November 23, 1967; Patryla, *A Photographic Journey Back to Marineland of the Pacific,* 44.

oceanarium. Furthermore, the oceanarium likely kept Bimbo's removal hidden from the public because of possible angry reactions to the park giving up on and ejecting a beloved whale from its home.

Entertaining Education

Although oceanariums are designed with entertainment as the main priority, many also feature educational aspects through speeches, publications, and performances. Dr. Jane C. Desmond, a professor in anthropology and gender studies, claims oceanariums are characterized by "the combination of education and entertainment, sometimes dubbed 'edutainment.'"[137] For Marineland of the Pacific, edutainment had always been its core mission. Originally intended to be an educational institution where families were entertained, Patryla argues that Marineland's founder, Henry Harris, also wanted the oceanarium to be a place where researchers investigated marine life. While Patryla does not provide evidence for this assumption and financial records from Marineland's first years of operation showing the research and entertainment budgets are unavailable, there are other clues about Harris's interests. Based off the approval of a Scientific Advisory Board, multiple contributions by Marineland employees and researchers to scientific journals, and the hiring of Norris, a biologist with no experience in aquarium management, Harris appeared to be a supporter of the sciences although profit remained his priority. By publishing the research accomplished at Marineland, the oceanarium educated visitors and others about cetacean intelligence and the natural history of marine species. Furthermore, Marineland's popularity stimulated public interest in marine mammals, with early newspaper articles on the oceanarium including information about cetacean intelligence, diet, appearance, and habitat.[138]

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[137] Desmond, *Staging Tourism,* 168.

[138] "Elsie Like a Fish Out of Water Till Elmer Arrives," *Los Angeles Times* March 14, 1955, Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA; Rolla Williams, "Whale Smarter Than You Think," *San Diego Union,* not dated, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.

As the oceanarium expanded its collections, Marineland personnel made efforts to educate the public about the species located at the park. Norris especially stressed the importance of public education by sharing his findings in scientific journals, newspapers, magazines, and radio broadcasts.

Norris's discovery of echolocation was an especially popular topic in both scientific circles and the general news with articles in the *San Diego Union* and the *Los Angeles Times*.[139] His experiments with Kathy also made the front cover of the *Bulletin*, an evening newspaper produced in Los Angeles. The accompanying article detailed Norris's discoveries, publications, and upcoming lectures.[140] Although Norris left Marineland several years earlier, in 1962, he starred on a radio program from the University of California entitled *Moby Dick's Cousins.* The interview, broadcast in Los Angeles and San Francisco, included Norris discussing his experiences at Marineland, his echolocation experiments, and the discovery of cooperation in whales and dolphins. Listeners learned that cetaceans were "not dull, lumbering creatures but animals of unusually high mental dexterity."[141] Several years later, the *Post* published a multi-page article on the popularity of dolphins as high-status pets among wealthy Florida residents and included information about dolphin intelligence, communication, and echolocation scientists had gathered at Marineland.[142] With Marineland scientists actively publishing their research, the general public attained a better understanding of marine species they rarely encountered.

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[139] Leslie Lieber, "Porpoise with a Purpose," *Los Angeles Times,* March 13, 1960, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA; Bryant Evans, "Sonar Guides Blind Porpoise," *San Diego Union,* February 15, 1960, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[140] "Scientist Tells of Echo-Location Systems Through Porpoise(ful) Undersea Study," *Los Angeles Bulletin,* November 1960, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[141] "Moby Dick's Cousins," University of California: Radio-Television Administration, Broadcast #5051, April 29, 1962, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[142] Frederic C. Appel "The Intellectual Mammal," *Post,* January 4-11 1964, 23-30, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.

Marineland encouraged this education further by selling *Wonders of an Oceanarium* in their gift shop. The book's author, Lou Jacobs Jr., often anthropomorphized animals, for example, by stating that Marineland's dolphins felt comfortable lunging out of the water and next to the tank because they are confident their trainer will protect them. Yet *Wonders of an Oceanarium* also provided readers with simplified and coherent explanations of echolocation and cetacean social bonds. The book even detailed medical complications and animal deaths that occurred at Marineland, transparency the park later avoided.[143] *Wonders* also revealed Marineland's firsts signs of restricting public education in favour of entertainment, comforting audiences rather than revealing the harshness of life in captivity, and ensuring audiences believed park personnel knew far more about the animals than they actually did.

Varying accounts about Bubbles's first few weeks at Marineland of the Pacific show how park personnel shaped the narrative told to the public. In newspaper interviews, for example, Norris described Bubbles eagerly accepting squid from divers in her first days of captivity.[144] The children's book *The Story of Bubbles the Whale* remained closer to the truth, revealing that Bubbles was initially too stressed and depressed to eat, but the story later deviates as Bubbles realizes her lack of appetite upsets visitors and decides to eat to make the humans happy.[145] In reality, as described by Brown in scientific reports, Bubbles refused to eat for almost two weeks until he entered her tank, "forcibly rammed the tongs between her lips," and force-fed her squid until she accepted it without such coercion.[146] The varying portrayals of life behind-the-scenes at Marineland were in part because the publications targeted different audiences, from children to

[143] Jacobs Jr., *Wonders of an Oceanarium.*
[144] "Marineland Whale Okay," *San Diego Union,* March 17, 1957, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[145] Hackett, *The Story of Bubbles the Whale*.
[146] Brown, "Behavior of a Captive," 344.

other biologists, but also because the park's managers believed entertainment, not research, was key to Marineland's success. Disclosing the often alarming events that accompanied research and captivity could not only upset and discourage visitors from attending the park but would also reveal the uncertainty that still existed within industry and its practices.

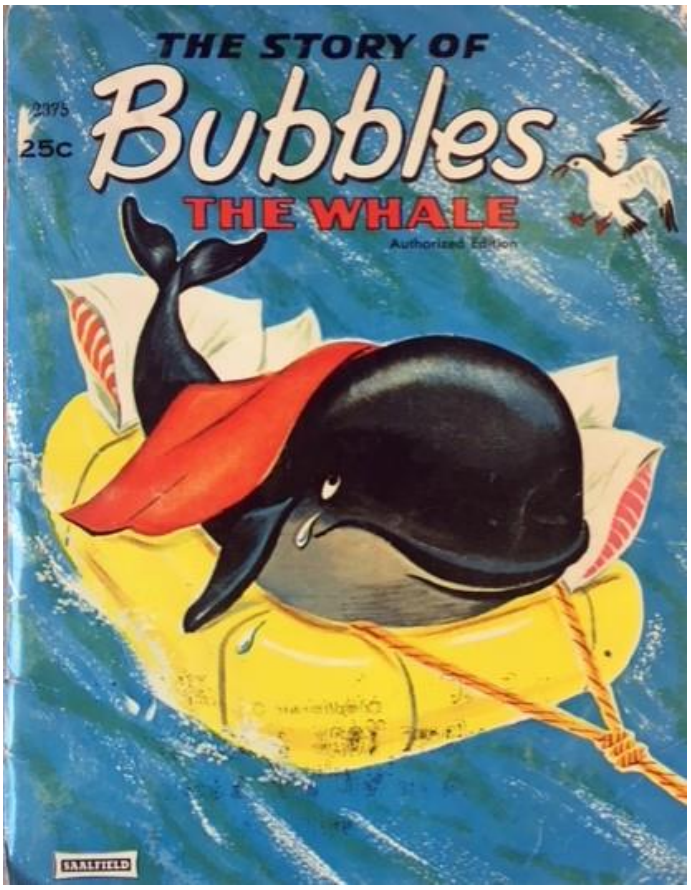

Figure 6. *The Story of Bubbles the Whale.* 1963.

Marineland did not always avoid informing the public about its captive cetaceans. Former Marineland staff member Ann Zellers and volunteer Diana McIntyre explained that, initially, the oceanarium focused on educating both visitors and personnel. After graduating from the University of Michigan's School of Natural Resources, Zellers joined Marineland in 1974 and performed pre-show lectures about the natural history of animals at the park. Zellers also took classes on marine life offered by California State University Long Beach at Marineland. McIntyre, who assisted in a variety of tasks at the park from photography to school tours and

animal rescue, also recalled attending a lecture by John Lilly at Marineland. Yet Zellers noted that the education side of Marineland "slowly went away. They [Marineland managers] obviously decided it wasn't what the people wanted, so then it just became entertainment."[147]

In 1970, Marineland opened the Stranded Animal Program, a program which rehabilitated injured and stranded marine animals along the California Coast, but the park stopped conducting and sharing more intensive biological studies.[148] Although entertainment was always the priority for Marineland, the mid-1960s saw a shift in the park from valuing entertainment and research, with an emphasis on the latter, to focusing almost entirely on entertainment. After the 1960s, the number of scientific papers featuring Marineland of the Pacific significantly decreased, pre-show natural history lectures ended, and tour guide manuals provided little information about ongoing research. Instead, manuals instructed guides to focus on naming animal body parts or pointing out infants in the enclosures.[149] With the natural history lectures finished, Zeller moved into more technical work at Marineland. She tested water and chemical levels, collected blood and fecal matter, and studied fish reproduction until the park closed in 1987.

Both McIntyre and Zellers believe Marineland of the Pacific served an educational purpose for the general public and future marine mammalogists. In the 1950s and 1960s, McIntyre explained, "there wasn't much whale watching, there wasn't much television or anything else that depicted that. So a lot of people were influenced...people became scientists in

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[147] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.
[148] Patryla, *A Photographic Journey*, 64; William Allan Walker, "Silhouette," *Palos Verdes Social Review,* February, 1973: 26-28.
[149] "Marineland Project Discovery Mini-Tour Guide," PVICA, *not dated but between 1980-1982 based on information in it.

the field and educators and so forth from oceanariums."[150] For many individuals and leaders in the marine mammalogy field, such as Norris and John Prescott, Marineland offered the first opportunity to interact with and study live cetaceans.[151] Zellers also recognized the benefits of oceanariums, stating "in defense of being in captivity, we've learned so much about their [cetaceans'] physiology." Yet both women encourage researchers, park visitors, and oceanarium managers to move beyond captivity-based studies, arguing "we've learned that so we need to move on."[152]

Contemporary Oceanarium Research

In the 1950s and 1960s, Marineland of the Pacific inspired leaders in the field of marine mammalogy, provided unprecedented opportunities to study cetaceans, and expanded fundamental knowledge about whale physiology and social structure. Yet, the trend of valuing entertainment over education and research in oceanariums continued to grow throughout the late twentieth century and into the present day. While Craig Phillips's, the former director of the National Aquarium, hoped that oceanariums would "begin to place less emphasis on 'show business," and instead display "such natural wonders as bioluminescence, animal sonar, color-changing, protective mimicry, and convergent and divergent evolution," contemporary oceanariums have failed to encourage such research and education.[153] Despite many marine parks boasting about their scientific programs, close investigation of financial records and

[150] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.
[151] John Prescott worked at Marineland of the Pacific from 1955-1972 in a variety of positions including assistant biologist, curator, and operational manager. Prescott made advances in understanding dolphin echolocation, pilot whale social structure, and mass cetacean strandings. In 1972, Prescott left Marineland and became the director of the New England Aquarium. Norris, *The Porpoise Watcher,* 101-106; Ford Burkhart, "John Prescott, 63, Ex-Director of New England Aquarium," *New York Times,* July 6, 1998.
[152] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.
[153] Phillips, *The Captive Sea,* 271.

studies suggest present-day oceanariums continue to expand the field of animal husbandry while marine mammalogy research dwindles.

In the 1980s, the Whale and Dolphin Conservation Society commissioned activist-writer Erich Hoyt to conduct an in-depth examination of oceanariums across North America. Hoyt interviewed politicians, marine park managers and curators, scientists, and animal trainers to uncover the scientific and educational value of whale captivity, as well as the health and safety of both orcas and their human trainers at the parks. In his report, Hoyt observes that although "scientific programmes of most marine parks are used as arguments to support keeping orcas and other dolphins," "the portion of the budget devoted to science is very small," and averages around 1% of the total operating budget at most oceanariums.[154] Hoyt notes that while some parks, such as Vancouver Public Aquarium and Marineland of the Pacific, provided insight on the natural history of their animals during performances, other oceanariums largely focused on playing music and exciting the crowd. Overall, the oceanariums he studied focused more on developing performances and personalities for their animals rather than educating audiences. Hoyt concludes that most oceanariums use science to legitimize their enclosures, and none were "in a position to boast to the public about its scientific mission."[155]

In recent years, oceanariums have come under intense criticism about the ethics of captivity and usefulness of research conducted on animals in captivity. Since contemporary marine research often focuses on ensuring sustainable wild marine mammal populations and the discovery of cetacean culture in those populations, the behaviour displayed by captive animals contributes little to understanding innate animal behaviour.[156] Yet modern advancements in

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[154] Erich Hoyt, *The Performing Orca - Why The Show Must Stop: An In-depth Review of the Captive Orca Industry* (England: Whale and Dolphin Conservation Society, 1992): vii.
[155] Ibid., 76.
[156] For more on cetacean culture see: Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*.

technologies, such as cameras, boats, and drones, which allow for noninvasive field research, require mass amounts of funding that scientific institutions often lack. SeaWorld's for-profit parks, for example, allow the SeaWorld and Busch Gardens Conservation Fund (SWBGCF) to provide financial assistance for institutions such as the Hubbs SeaWorld Research Institute, Wilderness Foundation Africa, and dozens more. In 2013, however, SeaWorld made a net profit of $50 million, but only contributed $669,422 to the SWBGCF, roughly 1.3% of the park's total earnings.[157] Although oceanariums' promote conservation and research as one of their main missions, Hoyt's conclusions about the tenuous connection between oceanariums and research remain valid today.

Early research at Marineland of the Pacific not only allowed scientists to gather foundational information about cetacean anatomy, swimming speeds and echolocation, information we often take for granted now, but the oceanarium also encouraged scientists to rethink the social life of whales. By providing scientists opportunities to closely study live cetaceans, Marineland's research "marked cetology's transition from a 'dead science,' based on examinations of scavenged remains from beaches and whaling stations, to a 'life science' of controlled experimentation and observation."[158] Furthermore, through observing close interactions, social bonds, and expressions of grief and apathy, marine mammalogists recognized whales and dolphins as emotionally and socially complex animals, an idea rarely considered in the 1950s. While cetacean intelligence was well known, especially in terms of dolphins obedience and capability for training, the discovery of emotional intelligence and unique

[157] U.S. Department of Treasury, Internal Revenue Service. (2013). *Form 990PF: Return of Private Foundation: SeaWorld and Busch Gardens Conservation Fund.* Retrieved from ProPublica Nonprofit Explorer Database; U.S. Securities and Exchange Commission. (2013). *Form 10-K: Annual Report: SeaWorld Entertainment, Inc.* Retrieved from SeaWorld Entertainment Inc., Financial Reports.
[158] Horwitz, *War of the Whales,* 201.

personalities revolutionized both marine mammalogy and the way public audiences understood and perceived whales, especially the park's iconic pilot whales. Yet research in captivity has limits, and in the twenty-first century, both animal ethics and the marine mammalogy field call for non-invasive field research, not continuous studies of captive animals, to expand knowledge about marine life.

Chapter Three: A Buxom Showgirl and an Overgrown Tadpole

When Ken Norris and Marineland of the Pacific's capture crew first encountered a pod of pilot whales in late 1956, Norris described the animals as "ungainly, with their bulbous foreheads, barrel chests, and large hooked dorsal fins," and that their "slim tail protruding behind seemed much too long for the animal."[159] Weeks later, after the capture crew shot and killed one male pilot whale, Norris reiterated his thoughts on the unsightly animal, insisting that "[t]he creature looked much like a great overgrown tadpole with a long grotesque tail."[160] While not a particularly flattering image, Norris painted an accurate picture: pilot whales look less like picturesque smiling dolphins and more closely resemble overgrown black eels. Norris explained that although the animals were unappealing, their behaviour towards each other and their young was "[p]articularly touching."[161] Despite their appearance, Marineland's pilot whales captured the attention of park visitors and marine enthusiasts across the nation.

The popularity of Marineland's pilot whales marked a transition from earlier public perceptions about the species. Journalist Mark Leiren-Young argues that in contrast to killer whales, whose public image went through a complete transformation from fearsome monsters to friendly giants in the 1960s, "pilots were just whales."[162] While pilot whales were not seen as threats to humans, public perceptions towards them did shift throughout the mid-twentieth century. Originally hunted by Pilgrims in the eastern United States in the seventeenth century, thousands of pilot whales were harvested annually at Cape Cod in Massachusetts until the

[159] Norris, *The Porpoise Watcher,* 72.
[160] Field Notes 1949-1960, 303, Norris (Kenneth S.) Papers, Box 36, UCSCA.
[161] Norris, *The Porpoise Watcher,* 72.
[162] Leiren-Young, *The Killer Whale Who Changed the World,* 8.

1920s.[163] By the 1940s, pilot whales were rarely hunted for commercial purposes in the United States, yet the public expressed little interest in their well-being. In 1946, for example, Dr. Gordon Gunter recalled coming across a pilot whale skull with a bullet embedded in its cranium. Gunter also interviewed one man who encountered a stranded pilot whale along the Gulf Coast. Instead of helping the whale return to the sea, the man dragged the animal aboard his truck where it later died.[164] Almost ten years later, Drs. Andrew and Priscilla Starrett discovered a dead mother and calf pilot whale in Massachusetts who had been struck down by an air force machine gun.[165] While stranded and hunted specimens were necessary for scientific work at the time, these whales were clearly not intended for research. Pilot whales, though not actively hunted for commercial purposes in the United States in the 1940s and 1950s, were also not subjects of widespread empathy or sentiment. How then, did Bubbles, Bimbo, and Squirt capture the attention of audiences both at Marineland and across America?

From Bubbles's first day at Marineland, the oceanarium worked to portray the whale as friendly and charming. Through performances, television appearances, books, and media releases, Marineland of the Pacific developed personalities for their pilot whales and created performances that encouraged Marineland audiences to form emotional connections to the animals, inspiring further interest in the whales and the oceanarium. Although Marineland's portrayal of pilot whales was primarily motivated by the commercial and financial gains that came with developing the animals' popularity, the park's displays and efforts transformed public

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[163] "Report of the Meeting on Smaller Cetaceans Montreal, April 1-11, 1974" *Journal of the Fisheries Research Board of Canada* 32 no.7 (1975): 917.
[164] Gordon Gunter, "Records of the Blackfish or Pilot Whale from the Texas Coast," *Journal of Mammalogy* 24, no. 4 (November, 1946): 374-377.
[165] Andrew Starrett and Priscilla Starrett, "Observations on Young Blackfish, *Globicephala*," *Journal of Mammalogy* 36, no. 3 (August, 1955): 424-429.

perceptions of pilot whales. No longer neglected or overlooked, pilot whales were presented as intelligent and charismatic friends.

Marineland generated audience appreciation and empathy for pilot whales by portraying them with human-like characteristics. Furthermore, park managers and media used anthropomorphic language to reiterate and strengthen traditional gender norms of the postwar period and to avoid confronting questions about the morality of captivity. Although popular media tended to anthropomorphize animals, scientific papers used mechanomorphic language to describe animals. Anthropomorphism assigns human-like qualities to non-humans, while mechanomorphism ascribes machine-like or mechanical qualities to living beings. By using mechanomorphic language in their research, scientists at Marineland created a disconnect between pilot whales' actions and the motivations or emotions behind their behaviours to avoid analyzing the emotional and mental consequences of captivity.[166] In Marineland of the Pacific's case, the anthropomorphic representations of pilot whales sought to establish emotional bonds with the species, revealing popular assumptions, values, and concerns. Yet at the same time, these portrayals of pilot whales distanced human audiences from the reality of cetacean captivity.

Charming the World

Prior to captivity, the general public had little knowledge or understanding of pilot whales, leaving their image open to interpretation by Marineland. The entertainment producers who design the shows and created Bubbles's image at Marineland, counteracted visitors' initial unease with the large, unfamiliar marine mammals by portraying Bubbles and Bimbo as playful, charming, and witty. Through television shows, brochures, performances, and popular media, Marineland influenced audience perceptions of pilot whales and emphasized the emotional and

[166] Eileen Crist, *Images of Animals: Anthropomorphism and Animal Mind* (Philadelphia: Temple University Press, 1999): 85.

intellectual similarities between humans and cetaceans to create a captivating, family-friendly image of pilot whales. By appealing to the audience's fascination with the unfamiliar and desire to interact with nature, Marineland capitalized on the animals' fictitious identities and visitors' interest in cetaceans. This transformation in public imagery of pilot whales was evident in descriptions of Bubbles's performances at Marineland.

Bubbles performed at Marineland four times a day in shows that featured her waving her tail at audiences, lifting barbells, wearing costumes, singing, leaping over horizontal bars, and shaking hands with humans.[167] Describing Bubbles's displays, Craig Phillips stated, "[s]he was a whale with a great deal of personality and she apparently loved being the center of attention, a position she came by naturally."[168] While these tricks allowed audiences to connect with Bubbles and recognize pilot whales as intelligent animals with personalities, anthropomorphizing animals through performances can also pose dangers for oceanariums. Susan G. Davis explains that "producing humanlike behaviors from animals (for example, a farewell wave) encourages the audiences to think of the animals as like people."[169] As audiences start to view the captive animals as people, they also start to question the ethics of captivity. Although Marineland wanted audiences to be interested in Bubbles' life, too much consideration of cetacean intelligence could lead to visitors questioning the appropriateness of captivity and performances.

Marineland hoped to preempt concerns about keeping intelligent creatures in captivity by downplaying pilot whales' ability for independent thought and choice. Instead of comparing Bubbles's intelligence to that of a human, newspapers and magazines likened the whale's

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[167] Marineland of the Pacific Brochure, Millay Papers, Box 9, File 422, UCFA; Marineland of the Pacific Brochure, Edward Griffin Fonds, Box 2, File 2.6, University of Victoria Special Collection; Arch Oboler, "I'm in Love With Bubbles," *Reader's Digest* 73, no. 437 (September 1958): 95-98.
[168] Phillips, *The Captive Sea*, 106; Hackett, *The Story of Bubbles the Whale.*
[169] Davis, *Spectacular Nature*, 177.

behaviour to an obedient dog. *LIFE* asserted that Bubbles performed tricks "which are usually associated with shorebound animals like dogs," while American playwright Arch Oboler equated Bubbles to "an enormous and benevolent Saint Bernard." Although Norris refused to compare Bubbles to a dog, he did call her a "big, gentle, happy slob."[170] Furthermore, popular media portrayed Bubbles as eager to learn from humans. In *The Story of Bubbles the Whale,* for example, Bubbles is initially scared of Marineland but becomes excited by the new games the human divers teach her and wishes she could share them with another whale.[171] By emphasizing the obedience and trainability of Bubbles, as well as her enthusiasm for human games, Marineland presented pilot whales as more impressive versions of common household pets who required human training and supervision.

Popular television shows continued this narrative by depicting Marineland's whales as intelligent pets and best friends to humans. In "The Beverly Hillbillies," the Clampetts first visit Marineland thinking it is a fishing hole and later return believing the park is the U.S. Marines recruitment center. While at the oceanarium, Granny hopes to catch a whale to cook for supper, yet she is constantly outsmarted by Bubbles and is forced to leave Marineland empty handed.[172] This episode showed that the species should be valued as a friend, not food. In a 1965 Easter Special of "The Munsters," the Munster family visits Marineland looking for a pet for Eddie. The matriarch of the family, Lily, is initially concerned about having a pet pilot whale since it could swallow Eddie. Her anxieties are later relieved during the whale show when Herman Munster hand feeds a pilot whale and the trainer explains that he and Bubbles are "the best of

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[170] "This Whale is Just a Big Ham," LIFE 43, no. 15 (October 7, 1957) Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA; Norris, "The Big One Got Away," 8, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA; Oboler, "I'm in Love With Bubbles," 97.
[171] Hackett, *The Story of Bubbles the Whale*.
[172] "The Clampetts Go Fishing," TV show; "Back to Marineland," TV show.

friends."[173] Although in the end the Munsters take home a sea lion, once again the show depicted pilot whales as friendly and obedient animals. Not only did these television shows offer empathetic portrayals of whales to audiences who could not attend Marineland in person, they also illustrate the transformation of pilot whales from unfamiliar animal to quick-witted friend. Furthermore, by creating personalities for the whales, the media promoted a bond between audiences and animals to entice people to return to the park and visit the whales.

NOT SCARED – Bubbles is now a television star, too. Billed as the biggest whale in show business the star of Marineland recently completed another television special. Members of the Munster family Marilyn, Grandpa, Lily and Junior watch on while Herman places pretty bonnet on their co-star.

Figure 7. *"Lights, Camera, Action..."* 1965.

In addition to popular television shows, Southern California newspapers also showed trends towards anthropomorphizing Marineland's pilot whales. When Bubbles was first captured, the *Los Angeles Times* referred to her behaviour as "sulking" since she refused to eat, while the *Torrance Herald* hoped the oceanarium would capture another whale to "remove any loneliness

[173] "Marineland Carnival," TV show, *The Munsters*.

which may have befallen Bubbles."[174] The *Palos Verdes News* continued developing Bubbles's personality by reporting on her behaviour on several film sets. For example, although Bubbles' exhibited a bout of jealousy on the set of "The Munsters," refusing to perform one day when Squirt was selected for a trick instead of her, the article stated that Bubbles frequently displayed a sense of professionalism in the face of 'amateur' Hollywood actors.[175] Through these newspaper articles, pilot whales were presented as intelligent animals, perhaps slightly spoiled or goofy, but with similar traits and behaviours to humans. Yet when the whales failed to behave in ways deemed appropriate, Marineland managers and popular media re-labelled them as insane or problematic.

Like Marineland, early American circuses also used media to recraft popular images of elephants when they displayed dangerous or uncontrollable behaviours. Susan Nance explains that in the late nineteenth and early twentieth century, after years of cruel treatment, circus elephants often lashed out by smashing property, breaking out of enclosures, or injuring people. In response to these outbursts, the circus attempted to relieve concerns about circus life and capitalize on public fears by labelling female elephants as 'mad elephants.' The 'mad elephant' was "a villain like her male counterpart, but seemingly more deceptive and vengeful," while newspapers labeled "escaped elephants seen walking down the road browsing the trees as 'angry' elephants, 'rampaging' and causing 'a panic' simply because the genre of animal rampage story was a comprehensible and eye-catching old favorite."[176] These narratives placed blame for the aberrant behaviours on the animals themselves, not their treatment in captivity, and also appealed to audiences curious about wild animals. In 1967, following Bimbo's ramming of

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[174] "Mabel the Whale Gets Relief from Sunburn in Giant Marineland Pool," *Los Angeles Times,* March 7, 1957*;* "Big New Sea Arena Slated for Marineland of Pacific," *Torrance Herald,* December 5, 1957.
[175] Bill Campeau, "Lights, Camera, Action…" *Palos Verdes Newspaper,* May 27, 1965, 20.
[176] Nance, *Entertaining Elephants,* 176-177.

the observation window, managers and newspapers used similar strategies to blame the whale for his erratic behaviour, labelling Bimbo "psychotic," "aggressive," and "suspected by some of having caused the death of at least one tankmate, a dolphin."[177] Although Bimbo had caused the death of one tankmate, a pilot whale not a dolphin, Marineland and newspapers did not start calling him aggressive until his volatile behaviour threatened to disrupt audience experiences.

By developing public personas for the whales, popular media and Marineland managers were able to influence how audiences interpreted and understood whales, captivity, and the oceanarium. Popular narratives encouraged audiences to bond with the animals and return to the park to visit them while also interpreting animals' erratic behaviour. When that behaviour conflicted with the created narratives, as with Bimbo, Marineland personnel insisted the whales were deviating from normal, natural behaviour to perpetuate their imagery of contented captivity.

Bubbles' Love Life

News outlets not only created personalities and unique characteristics for Marineland's pilot whales, they also used gendered language to anthropomorphize the animals and their relationships with each other. Both Jason Colby and Mark Werner have commented on the gendering of animals in public forums in their examinations of Moby Doll. In 1964, Moby Doll was mistakenly labelled female, not male, by Dr. Pat McGeer and the Vancouver Aquarium. In this instance, the misgendering of Moby Doll as female arose from popular assumptions about female docility, male aggressiveness, and the fearsome reputation of killer whales. Since Moby Doll appeared gentle and calm, not the ferocious monster expected from killer whales, scientists

[177] Townsend, "'Psychotic Bimbo Banished, Returned to Old Sea Haunts," 1-2.

and the media assumed the whale must be a female.[178] While Marineland's cetaceans were not misgendered, narratives about their gender still dominated media coverage of the animals.

New outlets and Marineland's employees used heavily gendered language to describe the animals' behaviours, personalities, and relationships and to influence popular perceptions of the animals. For example, Phillips describes Bubbles's act of wearing a large, flowery hat and "her natural coy smile" as reminiscent of the "twittery foolishness of a Helen Hokinson clubwoman about to address a meeting."[179] In another instance, Oboler, who often visited Bubbles at Marineland, called her "a buxom showgirl," and "an Enchantress in Whalebone, a Cinderella in Blubber who has become beautiful without benefit of fairy wand."[180] Oboler further stated that he was impressed with Bubbles's good humour and her determination to know the "content of her new world and find a way to truly relate herself to it."[181] These descriptions of Bubbles, as well as specific trained behaviors, highlight notions of femininity in postwar society amid widespread concerns about the changing roles of women.

Following World War II, the United States saw a dramatic increase in birth rate and a lowered age of marriage. Elaine Tyler May argues that despite wartime changes in the gender structure of the labour force, lingering war-induced trauma along with anxieties about financial uncertainties and global politics saw postwar American society experience "a surge in family life and a reaffirmation of domesticity that rested on distinct roles for men and women."[182] Popular

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[178] Colby, "Changes in Black and White," 24; Werner, "What the Whale Was,"19.

[179] Phillips, *The Captive Sea*, 106. Helen Hokinson was an American cartoonist in the 1920s and 1930s known for her satirical drawings of clubwomen. These "Hokinson women" were naive but good-intentioned women who were enthusiastic about cultural trends, fashion, and diets. For more on Hokinson see: Doris Weatherford, *American Women during World War II: An Encyclopedia* (New York: Routledge, 2009): 214-215.

[180] Oboler, "I'm in Love With Bubbles,"95, 98.

[181] Ibid., 97.

[182] Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, Inc., 1988): 8-9. For more on gender in postwar America see: Joanne Meyerowitz, eds., *Not June Cleaver: Women and*

media, government officials, and respected experts in fields such as psychology and medicine, encouraged men to "reclaim their status as the primary breadwinners and heads of household" while showing women the freedom and fulfillment homemaking and childrearing offered them.[183] The anthropomorphic and gendered language used by news outlets and Marineland to describe the park's pilot whales reaffirmed this return to nuclear families and traditional gender roles. For example, newspaper articles were concerned with Bubbles finding an appropriate bridegroom for a whale marriage and how Bimbo appeared to be an "Eater -- Not a Lover" who "snubbed the lady whales almost to the point of rudeness."[184] While these articles focus on the importance of marriage, even between whales, other articles concentrate on the expected gender-based roles in partnerships.

In descriptions of Marineland's dolphins, the *Los Angeles Times* notes that the males, Frankie and Floyd, "had received specialized instruction in Florida and could perform all kinds of fancy tricks."[185] In contrast, Mabel and Myrtle performed no tricks but were popular for "winking at the boys and making silly little gurgling noises" and under the "expert guidance of their male companions they are rapidly becoming veteran troopers."[186] The article goes on to describe how one dolphin, Elsie, is neither trained nor impressive enough to garner attention from audiences. What she needed, and wanted, was "a man around the house."[187] Once another male dolphin was captured and added to the tank, the article stated that for Elsie, "life was worth

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Gender in Postwar America (Philadelphia: Temple University Press, 1999); Nancy F. Cott, *Public Vows: A history of Marriage and the Nation* (Cambridge: Harvard University Press, 2000).

[183] May, *Homeward Bound*, 22, 59.

[184] "Bubbles Still Sad; He Whale Ain't He," *San Pedro News Pilot,* July 6, 1957, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA; "Companion for Bubbles," *Torrance Herald,* February 8, 1959.

[185] "Elsie Like a Fish Out of Water Till Elmer Arrives," Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA.

[186] Ibid.

[187] Ibid.

living now, she had her man."[188] These descriptions of Marineland's dolphins echoed the narratives and advice endorsed by governmental policies, experts, and other forms of popular media in which men were expected to be strong family leaders while women played strictly supportive roles.

The gendered discourse surrounding Marineland's cetaceans clearly reflected postwar values regarding women's roles and domestic life. The anthropomorphic language emphasized connections between humans and nonhumans, encouraged humans to empathize with the animals, and reaffirmed common societal beliefs. Yet this heightened empathy toward cetaceans also prompted audiences to consider how whales experienced captivity. By encouraging audiences to focus on the whales' invented personalities and melodramatic storylines, and not the reality of their lives, Marineland helped avert public concerns about keeping cetaceans in captivity.

Distancing from the Animal Face

Marineland encouraged audiences to empathize with cetaceans by promoting imagined gender dynamics among the animals, yet some scholars believe this anthropomorphization repressed deeper connections to captive whales. Mark Werner urges readers to ask "what historical significance lies in this sexualization of the whale?"[189] Do the narratives developed in popular media surrounding Bubbles and Bimbo reveal more than just commonly held postwar values and ideas? Davis and Jane C. Desmond both note how by the 1970s, environmentalist movements and anti-captivity sentiments forced oceanariums to recraft cetaceans' image. With audiences forming attachments to costumed whales performing unnatural, human-like

[188] "Elsie Like a Fish Out of Water Till Elmer Arrives," Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA.
[189] Werner, "What the Whale Was," 19.

behaviours, oceanariums, facing questions about the ethics of captivity and the "authenticity" of behaviours, transformed how they displayed cetaceans by focusing less on the characters they had created and instead featuring behaviours whales may display in the wild.[190] Although the anthropomorphization of Marineland's whales by the park and media generated enthusiasm for the animals as audiences saw them as creatures with similarities to humans, Werner argues that in the case of the Vancouver Aquarium, instead of inspiring empathy with the caged whales, anthropomorphic language actually served to silence concerns about the humane treatment of cetaceans. By focusing on the whales' imagined love lives and personalities, audiences and Marineland employees distanced themselves from the often harmful conditions of captivity and the "violent exercise of power embedded" within oceanarium practices.[191]

Marineland's distancing from the consequences of poor animal husbandry techniques is evident when, as mentioned earlier, Bubbles swallowed a rubber inner tube, causing her to stop eating and causing Marineland's staff to fear for her life and the future of the park's whale display. Manager William F. Monahan sought out medical treatment for Bubbles but announced that her poor appetite came from loneliness. She was, he stated, essentially "lovesick."[192] Monahan told newspapers that Marineland's staff were trying to find a mate for Bubbles, while in reality, they were inducing regurgitation in the whale.[193] Monahan created an elaborate story about Bubbles's loneliness to deter the public's attention from the park's shortcomings and problems of captivity. Furthermore, Monahan's story encouraged the expansion of cetacean captivity by insisting the solution to Bubbles's illness was another whale.

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[190] Desmond, *Staging Tourism*; Davis, *Spectacular Nature*.
[191] Davis, *Spectacular Nature*, 68/177; Desmond, *Staging Tourism*, 248-249; Werner, "What the Whale Was," 22.
[192] "Bubbles Wasn't Lovesick, She Just Needed a Dose of Bicarb," *San Pedro News Pilot*, July 6, 1957, Marineland Scrapbook 1957-1959, Norris (Kenneth S.) Papers, Box 60, UCSCA.
[193] Ibid.; Letter from William F. Monahan to Dr. William W. Lermann, July 19, 1957, Norris (Kenneth S.) Papers, Box 82, File 22: Research: Globicephala, UCSCA; Brown, "Behavior of a Captive Pacific Pilot Whale."

In Bimbo's case, Marineland employees linked captivity to his erratic behaviour, but publicly the park labelled him as 'psychotic,' 'sulky,' and 'aggressive.'[194]At first, the park portrayed Bimbo's behaviour as abnormal outbursts, but as his volatility continued, the narrative transformed and popular media characterized Bimbo as mentally unstable. Since Bimbo's behaviour did not align with the Marineland's mission to create family-friendly entertainment, the park highlighted his instability and 'psychotic' tendencies to justify his removal. Newspapers used anthropomorphic language to place blame for Bimbo's behaviour on the whale itself and public investigations into Bimbo's treatment and the consequences of long-term captivity were dismissed. Although Lou Jacobs Jr., Duane Valentry, and one of the scientific reports conducted on Bimbo all attribute his behaviour to extended captivity, this idea did not reach popular narratives.[195] Instead, by simply depicting Bimbo as 'psychotic' and 'aggressive,' Marineland staff could distance themselves from the ramifications of their actions, and visitors could separate themselves from the conditions their spectatorship encouraged.

'Psychotic' Bimbo Banished, Returned to Old Sea Haunts

BY DOROTHY TOWNSEND
Times Staff Writer

Some new stars are being groomed to take the place of Marineland's biggest attraction but it is doubtful that even Orky, a flashy new killer whale, can match the splashy Bimbo.

Bimbo, for nearly eight years the largest pilot whale in captivity, is swimming free somewhere out in the Pacific and if he ever does any of his old tricks, it will be for a silent audience.

Officials at the oceanarium reluctantly decided to release the 6,000 pound mammal, who last June smashed a double pane observation window of the whale tank, spilling 350,000 gallons of water and injuring four persons.

A spokesman for Marineland de-

HIS WORST DAY.—Here is observation window Bimbo smashed in the Marineland tank. Diver is Duke Champion.
Times photos

Figure 8. *"'Psychotic' Bimbo Banished, Returned to Old Sea Haunts."* 1967.

[194] Valentry, "Big Star All at Sea," 223; Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 25; Torgerson, "Why did Bimbo Shatter Glass Window?"; Townsend, "'Psychotic' Bimbo Banished, Returned to Old Sea Haunts."

[195] Jacobs Jr., *Wonders of an Oceanarium,* 67; Valentry, "Big Star All at Sea," 223; Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 26.

Both Werner and Eileen Crist agree that language used to describe animals can distract audiences from the power dynamics at play in cetacean captivity, yet their opinions on anthropomorphic language differ dramatically. Crist's study documents how the mechanomorphic language in scientific reports severs animal behaviours from their intentions or emotions. She advocates for biologists to use anthropomorphic language or "social-category terms," such as infanticide, adultery, or altruism, to develop research that "reflects back on human society, indirectly exposing the animal dimension of human relations, practices, and attitudes."[196] In other words, researchers should use familiar language and emotions to describe animal behaviour not to reveal how similar animals are to humans, but how similar human society is to nonhuman. Yet familiar social-category terms tend to be rejected in technical and scientific papers in favour of mechanical language because researchers fear revealing this likeness and transgressing "the boundary between nature and culture."[197]

This boundary was emphasized in the technical language used in Marineland's reports on Bimbo. After Bimbo experienced the deaths of the original Bubbles, Debbie the dolphin, and one other pilot whale, researchers at Marineland concluded, based on Bimbo's unusual actions, that "individual recognition and attachment may then well play a major role in cetacean behaviour."[198] Although the study admits that Bimbo showed an "apparent affection for a recognized individual," researchers avoided using words such as sadness, mourning, or grief when describing Bimbo's response to the animals' deaths and fully developing an emotional understanding of the event. Instead, they adopted technical language to explain his physical reactions. For example, reports describe Bimbo's responses and startled expression as common

[196] Crist, *Images of Animals,* 158
[197] Ibid., 161
[198] Caldwell, Brown, and Caldwell, "Intergeneric Behavior by a Captive Pacific Pilot Whale," 9.

in humans and animals since they are not displays of shock or grief but merely physiological reactions caused by "the involuntary action under emotional stress of Mueller's orbital muscle."[199] Although studies on Bimbo confirmed that cetaceans form long-term attachments to each other and have similar responses to humans, they do not address the emotions that come with relationships or how those emotions can drive behaviours.

While Marineland capitalized on using anthropomorphic language to generate public enthusiasm for its cetaceans, in its scientific studies the oceanarium avoided legitimizing humanlike emotions in whales. Even Norris who described the animals as having "a sense of humour" and a "friendly attitude" in his non-scientific publications, tried to refrain from discussing their emotions or personalities in his scientific papers.[200] Scientific literature often uses mechanomorphic language as an attempt to attain unachievable objectivity in studies or to avoid false assumptions about unknown animal motivations. Yet by using technical language and avoiding familiar or relatable descriptions of specific behaviours, researchers ignore a critical part of understanding animal intentions. By disregarding similarities between human and nonhuman behaviours and emotions, scientists at Marineland distanced themselves from their own collaboration in an industry that was, and continues to be, harmful to other beings. Furthermore, they avoided taking a critical, self-reflective stance on their own work and actions.

On the one hand, anthropomorphism may be a way for humans to find similarities with nonhumans and relate to unfamiliar species, while mechanomorphism is an attempt by scientists to remain objective observers to nonhuman behaviours. On the other hand, as illustrated through media and scientific depictions of events at Marineland, both anthropomorphic and

[199] Caldwell, Brown, and Caldwell, "Intergeneric Behavior by a Captive Pacific Pilot Whale," 9.
[200] Norris, *The Porpoise Watcher,* 101.

mechanomorphic language can be used by humans to distance themselves from the often harmful conditions of captivity and avoid or reject any possible parallels between humans and non-humans.[201]

Disneyfied vs. Responsible Anthropomorphism

One way to develop empathy and understanding of non-humans without projecting imagined stories onto animals is by practicing what Andrea Gaynor and Joy McCann describe as "responsible anthropomorphism."[202] Gaynor and McCann suggest that, in contrast to the often 'Disneyfied' projections of cetaceans presented in media outlets, responsible anthropomorphism is critical to understanding how relationships with non-humans have transformed and "how it has felt and what it has meant, in a particular historical context, to engage with the marine world."[203] Responsible anthropomorphism, they argue, comes from direct interactions and close relationships between humans and animals that often take a long time to develop and involve a balance of "play and predation."[204] Although Marineland personnel interacted directly with captive cetaceans and developed close relationships, their interactions are embedded within the power dynamics of captivity and do not display responsible anthropomorphism. For example, Jake Jacobs, Marineland's head diver, worked closely with Bubbles at Marineland and experienced both playfulness and violence from her. In one account, Jacobs explains his attempt to understand the fear and confusion Bubbles's must have endured in her first weeks of captivity by stating:

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[201] Werner, "What the Whale Was," 22; Crist, *Images of Animals,* 158.

[202] Andrea Gaynor and Joy McCann, "'I've Had Dolphins...Looking for Abalone for Me': Oral History and the Subjectivities of Marine Engagement," *Oral History Review* 44 no. 2 (September 2017): 265.

[203] The terms 'Disneyesque' or 'Disneyfied' are used by Gaynor, Zelko, and Morton to describe the simplifying and sentimentalizing of places, objects, or beings. See Zelko, *Make it a Green Peace!,* 184; Morton, *Listening to Whales,* 56.

[204] Gaynor and McCann, "'I've Had Dolphins...Looking for Abalone for Me,'" 265.

> If you can imagine yourself captured like Gulliver by a race of Lilliputians - beings weight a tenth as much as you, yet able to overpower you; speaking a incomprehensible tongue, and thus unable to let you know that they aren't going to harm you - then you can understand how she must have felt[205]

Jacobs's direct interaction with Bubbles caused him to empathize with her, yet there is no balance of play and predation since he knows he is in control. While Jacobs's humanization of Bubbles is not an example of Gaynor and McCann's responsible anthropomorphism, the experiences of Marineland personnel provide more support for how direct interaction with cetaceans and oceanariums transformed the relationship between humans and whales.

As popular media compared cetaceans to obedient pets or charming flirts, examinations of close interactions with captive cetaceans can both support the change towards valuing them as living beings and reveal differences between public narratives and the realities of direct experiences. Ann Zellers recounted two interactions with dolphins at Marineland that demonstrated their personalities and intelligence beyond that of strict obedience. In the first, while throwing a ball back and forth with a dolphin, Zellers slipped and fell. "The ball didn't come," she recalled, "he's [the dolphin] just watching me, 'you okay?'" In a second encounter, Zellers and other employees were attempting to separate one sick dolphin from the rest of the group. When one healthy dolphin escaped the nets, he went over and knocked each employee down, one by one. Zellers explains that to many personnel, the intelligence and independent though displayed by the dolphins were unsurprising, they "just adjusted to them as an animal."[206]Although popular media emphasized the trainability of pilot whales and equated them to pets, Zellers's interactions provides direct insight into the complex relationship with cetaceans and the recognition of them as intelligent beings.

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[205] Jacobs, *Marineland Divers,* 160.

[206] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.

Zellers's memories also provide a contrast to the language used in popular media. While news outlets and Monahan used strongly gendered language to describe Marineland's whales and dolphins, Zellers notes that she did not hear references to the cetaceans' feminine or masculine behaviours during her employment at the park. Although Zellers did not join Marineland until the 1970s, when environmental movements were impacting how oceanariums presented cetaceans, her experience also indicates that oceanarium employees who worked closely with the animals had a different understanding of the cetaceans compared to public images of them as she was unsurprised by their intelligence and could empathize with them as animals, without placing human values on their behaviours.[207] Furthermore, the lack of gendered language used by trainers suggests that Marineland's public relations department used language that resonated with their public audiences but did not reflect the reality of the park's operations.

Crist and Werner's arguments show how language can be used to avoid reflecting on human actions and relationships with nonhumans. Although popular media tends to anthropomorphize animals while scientific reports mechanomorphize them, both discourses obscure from the reality of the whales' lives in captivity. While personnel's direct experiences with cetaceans reveal yet another aspect of captivity, they too are unreliable because memories may be influenced by cultural changes and pressure, or individuals hope to alter their understanding of their own role in captivity. In this way, the strongly gendered language of newspapers and the mechanomorphic language in scientific papers can be seen as an attempt by Marineland's staff to reveal some information about the animals and establish human bonds with the whales, while also protecting and promoting the oceanarium industry. Ultimately, popular language reveals less about the animals themselves and more about human-held anxieties or

[207] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.

values. Yet the changing portrayal of cetaceans in media and scientific research still reveals how perceptions and understandings of whales transformed in the postwar era.

By the early 1970s, oceanariums and whales were popular entertainment across North America. While Greenpeace's 'Save-the-Whales' Campaign had yet to begin, popular sentiments towards cetacean lives had shifted dramatically over the previous twenty years. In 1969, for example, the *Desert Sun* reported that "a harmless [pilot] whale somebody shot for no apparent reason," washed up at Long Beach, California.[208] Although the city was largely concerned with the whale ruining the beach, instead of killing him and disposing the carcass, lifeguards spent an entire day attempting to return the animal to the sea. After towing the whale away from the shore and releasing him, one lifeguard reported "we would like to see him go on his way after recovering. It's just like a pet dog."[209] Another example of the shift in perspectives towards whales occurred in January, 1970, when about 150 false killer whales stranded themselves along the southeast coast of Florida. Twenty years earlier, beachgoers, residents, and scientists would likely have shot and killed many of these animals or left them to die in the sun. Instead, numerous people spent tireless hours dragging live whales back to sea, despite the whales continuing to strand themselves again.[210] Less than two years later, a pod of pilot whales attempted to strand themselves along the west coast of Florida but were blocked by beachgoers. "A large crowd of people," reportedly, "made several attempts to push the whales off the beach," and "the people continued to push and pull individual whales into deeper water."[211] Eventually, several boats were used to lasso and tow two large whales offshore, causing most of the pod to

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[208] "Big Pilot Whale, Shot, Tries to Stay on Beach," *Desert Sun,* February 11, 1969.
[209] Ibid.
[210] David K. Caldwell, Melba C. Caldwell, and Cecil M. Walker Jr., "Mass and Individual Strandings of False Killer Whales, *Pseudorca crassidens,* in Florida," *Journal of Mammalogy* 51, no. 3 (August 1970): 634.
[211] William K. Fehring and Randall S. Wells, "A Series of Strandings by a Single Herd of Pilot Whales on the West Coast of Florida," *Journal of Mammalogy* 57, no. 1 (February 1976): 192-193.

follow. Although a number of stranded whales died, many more were successfully returned to the ocean and seen swimming away.

This transformation in the public's perception of and reaction to cetaceans is largely owed to Marineland's narratives which portrayed whales as friendly, relatable, and charming animals. The popular stories developed in the media about the whales' personalities, relationships, and emotions allowed audiences across the country to empathize with the park's cetaceans. No longer foreign creatures worthy only of dissection and study, the anthropomorphization of whales allowed humans to identify with the animals and establish emotional bonds, ultimately leading to attempts to rescue and protect cetaceans across the country.

Conclusion

By the 1970s, Marineland of the Pacific struggled to compete in the Southern California marine park market. Although Marineland eventually obtained several killer whales and developed a basic revitalization plan, the park could not recover its original prestige. Its attendance continued to drop to less than 800,000 visitors per year, less than half that of Sea World, while its annual net income fell to only $57,431 in 1971.[212] The same year, Marineland's shareholders sold the park to the Hollywood Turf Club, which initiated an Economic Revitalization Plan. The plan explained that Marineland's small size, expensive ticket prices compared to time spent at the park, poor overall condition, and increasing competition from Sea World, required the park to undergo extensive renovations and restructuring to continue operating. The report went on to state that between Sea World and Marineland, the oceanarium market was oversaturated and Marineland managers needed to sway visitors away from Sea World and towards their own park. Not only would Marineland's owners need to make basic cosmetic updates, they would also need to remodel the aquarium, develop new attractions, and create more innovative cetacean shows.[213] Yet the Hollywood Turf Club decided to not move forward with these recommendations. Instead, it initiated a fifteen-year period in which Marineland changed ownership multiple times with few improvements made.

In contrast to Marineland, Sea World's growth and success in the animal industry continued throughout the 1970s and 1980s. Killer whales were the starring animal at oceanariums, while pilot whales were relegated to the less popular dolphin shows, but

[212] Economics Research Associates, *An Economic Plan,* Economic Revitalization, III-2, Millay Papers, Box 9, File 423, UCFA; Patryla, *A Photographic Journey*, 65.
[213] Economics Research Associates, *An Economic Plan,* Economic Revitalization, III-3, III-6, Millay Papers, Box 9, File 423, UCFA.

restrictions on capturing and importing orcas placed Sea World's killer whale stock in danger.[214] Outside of Sea World, Marineland had the only pair of breeding orcas in captivity, "Orky" and "Corky," in North America. In 1986, Sea World's owners, Harcourt Brace Jovanovich, Inc., approached Marineland about purchasing the whales. When Marineland's managers refused the multi-million dollar offer, Harcourt offered to buy the entire oceanarium from the park's owners, Far East Hotel and Entertainment Ltd.[215] Although Harcourt promised to keep Marineland open and start the long-needed improvements on the park, the company failed to keep their word.[216]

In the middle of the night on January 20th, 1987, Marineland's orcas were covertly lifted from their tanks at Marineland, placed on the back of two trucks, and driven down Interstate 5 to their new home at Sea World in San Diego. Interviewed in 2017, Rose Marie Bernhardson, a Marineland nurse from 1979 to 1987, recalled the night the killer whales were removed, "[lifted] up over the killer whale tank, down onto a truck, and drove it down the 405. Unbelievable! And a couple guys rode the back, they stood in with them [the whales] as they were driving down the freeway, just to keep them calm."[217] The *Los Angeles Times* reported that, "[f]or Harcourt, that long night of January 20 meant the end of a desperate search for breeding killer whales. For Marineland, it simply meant the end."[218] Three weeks later, the rest of the animals were moved to Sea World and Harcourt officially closed Marineland.

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[214] Patryla, *A Photographic Journey* 86. For more on the regulations on orca captures see: Colby, "The Whale and the Region," 425-454; Colby, "Changes in Black and White," 19-37.
[215] Bruce Keppel, "Marineland Sold to Company That Owns Sea World," *Los Angeles Times,* December 31, 1986.
[216] Patryla, *A Photographic Journey* 86-88; Nina Easton, "The Death of Marineland: When Orky and Corky Moved to Sea World, It Meant the Whale Show Could Go On. For Marineland, the Show Is Over," *Los Angeles Times,* August 9, 1987; Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.
[217] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.
[218] Easton, "The Death of Marineland."

Sea World offered a job to all Marineland employees, and while some made the move to San Diego, others, like Ann Zellers, left the industry. Aware of the ongoing controversies with cetacean captivity, Zellers believes that, "Marineland closed at just the right time so we can remember it with really good memories." Despite the park's eventual closure, Marineland left a strong legacy not only in the memories of the former workers, but also in the larger oceanarium industry. Zellers reported that when the Aquarium of the Pacific in Long Beach, California opened in 1998, "they invited all the old Marineland people to a lunch and I remember the man who is the head of Aquarium of the Pacific said 'I want our place to be like Marineland was.' So it was known, our family."[219]

Marineland of the Pacific's establishment in 1954 revolutionized cetacean sciences and contributed to shifts in how people interacted with and perceived whales. By creating new equipment and capture techniques, Marineland developed and expanded the marine mammal entertainment and inspired other oceanariums. Although ultimately Marineland was unable to thrive in the face of increasing competition, the park's work and technologies established industry-wide standards and expectations that continue to exist in the present-day oceanarium industry. Additionally, by providing unprecedented access to live cetaceans, Marineland granted biologists opportunities to study whales closely and remake the field of marine mammalogy. Beyond physiological and anatomical research, scientists also studied the emotional and social intelligence of whales and asked industry workers, public audiences, and other researchers to consider wild and captive cetaceans' well-being. Finally, by creating public personas for Bubbles, Bimbo, and Squirt, Marineland inspired audiences to think of the lives, relationships,

[219] Ann Zellers, Diana McIntyre, and Rosemarie Bernhardson, interviewed by author, group interview, July 7th, 2017, California.

and personalities of whales while also capitalizing on animal captivity, societal norms and public understandings of cetaceans.

Marineland's closure in 1987 ended an enterprise responsible for transforming the animal display industry and propelling marine mammals to new levels of fame. Although often overlooked, Marineland's early years are critical to understanding the origins of the oceanarium industry and marine mammalogy, as well as initiating public empathy towards whales which eventually led to Save-the-Whales and anti-captivity movements that began in the 1970s and continue to the present day. 1970s America saw a dramatic shift of ecological values exhibited through anti-whaling and anti-captivity movements, specifically with Greenpeace's Save-the-Whales campaign and demands for anti-capture legislation in the Pacific Northwest. Frank Zelko and Colby attribute this shift in public understanding of cetaceans and captivity to the whale personas created by oceanariums, the ability to closely interact with cetaceans, and several high-profile, violent whale captures. Together, these experiences continued inspiring human empathy with whales and humane treatment of animals.[220]

As a consequence of the growing knowledge about and empathy toward cetaceans, on October 21, 1972, the US Senate passed the Marine Mammal Protection Act which "established a blanket moratorium on the take of marine mammals, where 'take' was defined as harassment, injury, or killing." Furthermore, the Act prohibited scientific research requiring the capture of marine mammals without governmental permission.[221] These ideological shifts reverberated on a larger scale with the International Whaling Commission attempting to ban commercial whaling

[220] Zelko, *Make it a Green Peace!,* 167, 183; Colby, "The Whale and the Region," 429; Colby, "Changes in Black and White," 27, 35. Lavigne, Scheffer, and Kellert, "The Evolution of North American Attitudes toward Marine Mammals," 10-47, for a quantitative analysis highlighting the increasing humanistic attitude towards animals from the 1950s to 1990s.
[221] Benson, *Wired Wilderness,* 153.

in the 1970s and 1980s, eventually succeeding in 1982.[222] The moratorium is almost universally observed, although debates over whaling for scientific studies still take place, and its existence highlights the transformation in public values and perceptions of cetaceans. By 1976, the capturing of orcas had ended completely in the waters off Canada and the United States and oceanariums moved to Icelandic whale populations to stock their tanks. While cetacean captivity and entertainment persists and inspires future marine mammalogists, generates funding and research opportunities for biologists, and captivates families, public concerns about the oceanarium industry and its treatment of animals also continue. Recent investigations, such as the documentary *Blackfish,* have reignited the simmering flame of anti-captivity sentiments and inspired the public to question the future of oceanariums and cetacean captivity.

Gail Davies proposes that recent advancements in animatronics, digital imaging, and virtual reality technologies offer "new ways of conceiving of and portraying natural history" and "renewed glimpses of now changed habitats and extinct animals" while "presenting new opportunities for animal display" and introducing "the possibility of different relationships between human and animal experiences."[223] In other words, 'virtual' or 'electronic' zoos and oceanariums would consist of animatronics, 4-D film experiences, and immersive, virtual realities that continue to entertain and educate like traditional parks, yet do not rely on animal captivity. Davies cautions though, that the separation between park visitors and living, breathing beings could further distance humans from animals. Since animal images shown at electronic zoos display only limited filmed and reproduced behaviours, visitors and employees are unable to interact with the animals and experience their unpredictability, autonomy, and complex

[222] Dorsey, *Whales & Nations,* 200.

[223] Gail Davies, "Virtual Animals in Electronic Zoos: The Changing Geographies of Animal Capture and Display," in *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations,* edited by Chris Philo and Chris Wilbert (London: Routledge, 2000): 245.

nature.[224] Yet if these electronic parks portrayed comprehensive pictures of animal behaviour, habitat, and the impact of humans on their lives, visitors could still develop connections, empathy, and a responsibility towards animals, without the harm of captivity at play.

In the marine mammalogy field, present-day scientists continue to observe and study cetaceans both in captivity and in the wild. While studies on populations, reproduction, and cetacean responses to human actions endure, there has also been recent interest in the idea of cetacean culture. Initially suggested by Norris in 1979 after studying the structure and learned behaviours of dolphin pods, Norris stated, "[i]t seems apparent that dolphin learning does indeed provide a high level of individual behavioral flexibility in nature, and that this is translated into local variations of behavior that one might call culture."[225] In the twenty-first century, the idea of cetacean culture has gained traction among some marine mammalogists, although debates over its meaning and extent are prevalent. Hal Whitehead and Luke Rendell use humpback whale songs, orca dialects, and dolphins hunting with tools to encourage other biologists to consider how culture is defined and studied, whether or not whales and dolphins possess it, and what cetacean culture would mean for humans' treatment of these animals.[226] Marineland's early work in whale and dolphin behaviour helped inspire scientists, revolutionized approaches to marine mammal studies, and enabled scientists to push the boundaries of the field and eventually consider the possibility of culture in nonhumans.

Within the field of animal history, there are ongoing debates about how to properly historicize nonhumans. On the one hand, some scholars argue that animal histories can only be about human understanding of animals. D. Graham Burnett, for example, claims his writings are

[224] Davies, "Virtual Animals in Electronic Zoos," 259.
[225] Norris, Kenneth S. and Thomas P. Dohl, "The Structure & Functions of Cetacean Schools," July 1979: 69, Technical Report, Defense Technical Information Center Archives.
[226] Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*.

"about whales, but there are relatively few whales in it. Indeed, let's start with a basic truth: there is not a single cetacean of any sort in these pages." He continues, explaining that "though they breathe air, cetaceans basically like being in the water, while books are mostly written on paper, a substance that fares poorly when submerged. In this sense book and whales are, in an important way, immiscible."[227] Others, however, argue that historians should place animal experiences at the centre of their research in attempt to understand how animals perceive the world.[228]

Although whales are the main topic of research in many studies, whales' understandings and experiences of captivity, humans, and the underwater world are largely, and understandably, absent. Since whales do not leave traditional archives, human interpretation and uses of whales are the focal point of most historical research. Yet Marineland staff in the 1960s, such as Jacobs, and other authors and scholars in the years following have attempted to understand how whales experience the world and place them as the main, instrumental subjects. As Mark Werner argues:

> If one takes seriously the notion that the orca is a historical subject, then one must be willing to imagine the life of an orca, the sense experience of the whale. How does the world appear when space is sensed primarily through the reverberations of sonar through the ocean? What is it like to travel in three-dimensional space? Do their immense and contoured brains suggest an emotional complexity to their lives, a sense of identity or of history?[229]

Werner contends that if historians see whales as subjects deserving of study, then they should be viewed as dynamic actors with feeling, ideas, and senses. He theorizes that non-vocal forms of communication, such as captive orcas' collapsed dorsal fins or wild whales rubbing against boats, provide insight into whale understandings of the surrounding world. How then, using this approach, would Bimbo depict his own history?

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[227] Burnett, *The Sounding of the Whale*, 1.
[228] Nance, *The Historical Animal*, 3.
[229] Werner, "What the Whale Was," 8-9.

A male pilot whale swims with his pod in the temperate waters of the Catalina Channel. He surfaces for a breath before diving quickly below the surface for a hunting trip. At 600 metres deep, he lets out several echolocation clicks and buzzes to locate a squid. Although other whales and dolphins slow down at this depth to conserve their oxygen, the pilot whale dives further and faster, sprinting towards his prey. He captures and eats the squid before slowly surfacing, having been underwater for a short fifteen minutes. Once at the surface, he returns to his pod and makes short, shallow recovery dives to help diffuse the buildup of nitrogen in his blood.[230] As the whale continues swimming, he hears the sounds of an approaching vessel. The noises reverberate underwater, his pod has heard this noise before and recall that the vessels usually pass by, but this one comes closer. The whale stays near an adult female and calf, offering some protection or warning, yet he is the one caught in a net, hauled out of the water, and placed on a floating platform.[231] The whale feels the heavy weight of his own body for the first time and hears the panicked calls from his pod as he is towed further and further away.

Sometime later, the whale is unloaded back into a body of water, yet this water is colder, bereft of fish, and tastes odd. The whale descends and instantly collides with the ground, he is unable to achieve even a shallow dive. He calls out to his pod, but the sound reverberates back and disorientates him. Two female pilot whales and several dolphins approach, and although he finds comfort in their presence, they are strangers.[232] Days, months, years go by and the whale becomes used to not diving or sprinting after squid. Instead, he launches himself unnaturally out of the water to receive frozen, odd-tasting fish from his non-whale guardians. One night while

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[230] Natacha Aguilar Soto et al., "Cheetahs of the Deep Sea: Deep Foraging Sprints in Short-Finned Pilot Whales off Tenerife (Canary Islands)," *Journal of Animal Ecology* 77 (2008): 936-947.
[231] Brown, "Further Observations on the Pilot Whale in Captivity," 59-60; Toshio Kasuya and Helene Marsh, "Life History and Reproductive Biology of the Short-Finned Pilot Whale, *Globicephala machrorhynchus,* off the Pacific Coast of Japan," *Rep. Int. Whal. Comm* (Special Issue) 6 (1984): 308.
[232] Brown, "Further Observations on the Pilot Whale in Captivity," 60.

swimming, one of his companions struggles to swim and breathe. He swims close to her, offering support, yet she succumbs to her illness. Left with the body for hours, he tries to help her, as he has seen mothers with calves do before, by bringing her body to the surface. When the caretakers come his attempts at protecting her are unsuccessful. Months later, another death occurs. A third follows soon after.[233]

Traumatized from the deaths of his tankmates, the whale refuses to perform, loses his appetite, and lashes out at his surroundings. This seems to anger his wardens as they drain his pool and inject him with chemicals that disorient him. One day, he attempts to perform but is confused and angry. The whale crashes through the side of his tank, draining the water from his prison and receiving multiple lacerations.[234] Afterwards, he is removed from his watery home and placed in a new tank without any other marine companions. Isolated, aside from his wardens who feed him constantly, the whale spends the next few months alone in the unfamiliar tank. Then, he is once again removed from the tank, transported for several hours, and placed back in a body of water, but this one is different. The whale takes a moment to get his bearings; the water feels warmer and untainted. He echolocates, his calls go further than normal and he senses fish swimming nearby. He hears the calls of other whales, not just two or three, but thirty of them. Taking a breath, the whale dives deeper and further than he has in years before swimming towards the pod of whales calling to him.[235] He wonders about his companions left in the tank but hopes he will not be returned to them.[236]

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[233] Brown, "Further Observations on the Pilot Whale in Captivity," 62-63; Caldwell, Brown, and Caldwell, "Intergeneric Behavior by a Captive Pacific Pilot Whale," 4; Brown, Caldwell, and Caldwell, "Observations on the Behavior of Wild and Captive False Killer Whales," 8-10; Valentry, "Big Star All at Sea," 221-222.
[234] Torgerson, "Why Did Bimbo Shatter Glass Window?" 3.
[235] Valentry, "Big Star All at Sea," 223; Townsend, "'Psychotic' Bimbo Banished, Returned to Old Sea Haunts," 1-2.
[236] For a similar style of writing see: Joshua Horwitz, *War of the Whales: A True Story* (New York: Simon & Schuster, Inc.): 278-280.

This thesis examines Marineland of the Pacific's foundational years from 1954 to 1967, but further work on the park's role in the display and breeding of captive orcas, its development of marine mammal rehabilitation centers, and its creation of innovative oceanarium attractions would contribute to a more comprehensive understanding of the marine entertainment industry. In the twenty-first century, both anti-captivity sentiments and the future of the oceanarium industry would benefit from understanding the transformations in public perceptions Marineland initiated. Moreover, historical studies of animal entertainment venues and other areas of historical research would benefit from including both human and non-human experiences. From environmental history to studies on government, economy, or civil rights, animals have a place and influence on human beliefs, values, and actions. By including both humans and non-humans in historical research, historians can help create a trans-species history and ultimately, a more inclusive and comprehensive understanding of the past.

The history of Marineland shows that, although controversial in the present-day, oceanariums in the 1950s revolutionized the commercial display industry, the marine mammalogy field, and public perceptions of cetaceans. Marineland transformed and expanded animal entertainment with its innovative equipment, techniques, and displays. Furthermore, the research undertaken at Marineland not only contributed to expanding fundamental knowledge about cetacean physiology and anatomy, but also completely changed the marine mammalogy field as scientists started considering the emotional and social intelligence of whales and dolphins. Finally, Marineland's promotion of whales and dolphins in popular media reveals common societal values in the postwar period and traces the development of human empathy towards cetaceans. Although often overlooked, Marineland of the Pacific was responsible for reframing public and scientific understandings of marine mammal, setting standards for cetacean

capture and display, and inspiring present-day enterprises that continue to grapple with issues of scientific knowledge, public opinion, and commercial entertainment.

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Figure 3 –Dave Brown & Ken Norris. 1954. Photograph. Located in Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA.
Figure 4 – "Kathy" Presses the Lever Blindfolded. 1959. Photograph. Located in Marineland Scrapbook 1950-1957, Norris (Kenneth S.) Papers, Box 59, UCSCA.
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