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Conor Lauesen

Slabs of White: Panoramic Whales and Photographic Guano in the Mid-Nineteenth Century

Abstract: This article explores both the content and meaning of Benjamin Russell and Caleb Purrington's *A Grand Panorama of a Whaling Voyage 'Round the World*. I argue that *Whaling Voyage* viscerally activated audiences, auguring a phantasmatic spectacle through three interrelated experiential modes: (1) placeness and the whaling industry, (2) visages of financial investment and accumulation of wealth, and (3) the mechanical bombast of its phenomenological performance. Like the panorama itself, my exegesis is positioned at the fulcrum of various intellectual fields—a new media archaeological perspective. I focus intently on the formidable year of 1848 and the dynamic New England port town of New Bedford—at the time, the leading whale port of the world.

Building from this vantage, I then juxtapose *Whaling Voyage* with pictures from the *Rays of Sunlight from South America* (a collaborative effort produced with the itinerant photographer Henry de Witt Moulton). Challenging the epistemology of the moving panorama, *Rays of Sunlight* presents text and photographs in tandem—a compelling counterfoil to Russell and Purrington's mobile whaling panorama. I argue the nearness and clarity of photography implicitly reshuffled the pathos of panorama culture. More significantly, however, I uncover the most visually captivating and politically evocative images from *Rays of Sunlight*: pictures of guano, the nitrogen-rich fertilizer discovered in the Chincha Islands of Peru. In parallel to the epic sojourn and pictures from *Whaling Voyage*, the guano pictures tell a kindred tale of fractured places, capital accumulation and industrial-scale extraction, and transformation in visual culture.

Keywords: Ecology, moving panorama, capital, whaling, phenomenology

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Conor Lauesen, Art Department, Colorado College, Colorado Springs, Colorado, United States

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> God's gift Guano spread; the poorest soil
> With smiling crops Free-Traders' aim will spoil
> Well fed, well clothed, well housed, we need not fear,
> Should fail or cholera appear.
> —George Burges, *Native Guano*, 1848

In 1848, Benjamin Russell and Caleb Purrington completed their monumental panorama *A Grand Panorama of a Whaling Voyage 'Round the World*. Advertised as three miles of canvas, the mobile work of art was a gargantuan depiction of a whaling sojourn across the globe: ocean landscapes, vaporous horizon lines, and indigenous peoples construct the narrative. Like so many other large-scale pictures of the epoch, *Whaling Voyage* blurred the lines of entertainment and art, industry and culture. At one time touted the largest painting ever constructed, measuring 1,275 feet long and eight feet high, the New Bedford panorama was a marvel to behold, and on December 7, 1848, the artwork debuted to critical public acclaim in Fairhaven, Massachusetts. Created precisely during the cultural apex of early imagined nationalist communities, for twenty-five cents, spectators could immerse themselves in the imperial grandeur of Russell's time as harpooner aboard *The Kutusoff* (Fig. 1). Empire and excavation, economics and art, image and motion dovetailed in the hunt for whale booty.

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The origin of Benjamin Russell's story of deft harpooning and perilous travel at sea first began, however, in 1841. That year, the young artist and failed merchant set sail from the deepwater port of New Bedford at the mouth of the Acushnet River. Aboard *The Kutusoff*, he traversed Buzzard Bay to start a forty-two-month journey at sea as a boatsteerer. Some entrepreneurial germs of his soon-to-be grand panorama commenced in that vast emptiness of open sea and sky. Nonetheless, it was only upon the ship's safe return to New England that Russell's personal experience translated from seascape memory into aesthetic commodity. In *Whaling Voyage*, the spectral unknowability of the sea and its metonymical visage coalesced in a depiction of seafaring motion: a mobile and murky lexicon of signs, indexes, and signifiers. Form and content inexorably juxtaposed in meaning and appearance.

Meanwhile, within the same US mid-nineteenth-century scene of circulating global capital, large scale resource extraction, and media transformations, two disparate phenomena emerged. One of these was the heralded optical technology, photography. The daguerreotype was the first of many visual technologies able to directly create an image of absolute likeness. In 1839, the French government acquired the process rights and made them public. Inventor-artist Daguerre himself was, in fact, originally a painter of both dioramic and panoramic pavilions. With its uncanny ability to suspend images in compound substrates, inscribe surfaces, and depict accurate likeness with precision, the daguerreotype was one of many initial photosensitive technologies that developed along with other early iterative forms in the medium—experimental projects and processes from figures like Niépce and Talbot.

The imminent physical materialization (manifestation) of photographs—soon to be dubbed *the pencil of nature*—emerged within this mystery cauldron of chemicals

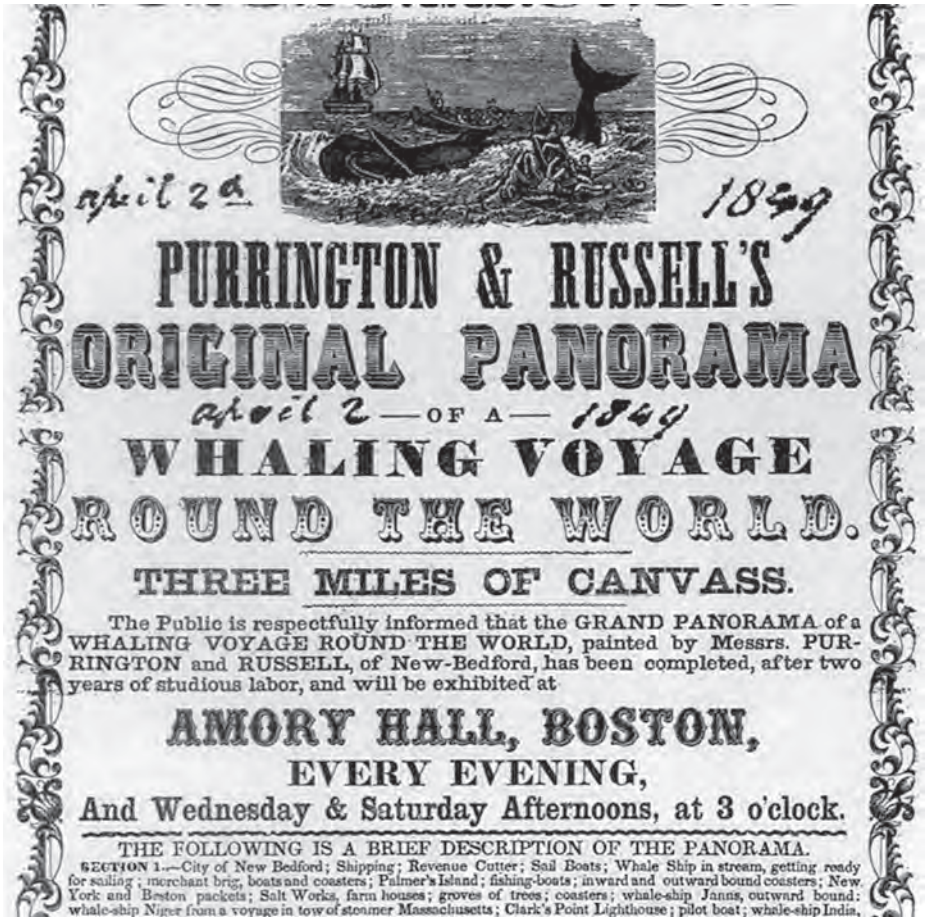

Fig. 1: Kevin J. Avery. "Whaling Voyage Round the World": Russell and Purrington's Moving Panorama and Herman Melville's "Mighty Book." *American Art Journal* 22, no. 1 (Spring, 1990) / New Bedford Whaling Museum. Public domain.

and liquids, salts and paper. Like the moving panorama, photography elicited anxieties about the ontology of perception and direct observation, the tactile nature of geographical distances, and the stakes of visual reproducibility and commodification (Crary 1992, 25–36; see also Pop 2019, 112–21).

The other mid-nineteenth-century phenomenon was the industrial-scale unearthing of the miracle fertilizer guano—desiccated seabird excrement. In the 1840s, Western imperial powers began to excavate and quarrel over the nitrogen-rich compost. With dried heaps located predominately along the coast of Peru in the Chincha Islands, the resource was a priori a global spectacle. Guano from the Pacific, like spermaceti and whale oil, was an elixir. A limited resource, at one time the precious fertilizer was priced at seventy-six dollars per pound, a quarter of the price of gold. Nevertheless, it

was not until two decades thereafter that photographs of guano would appear in wider cultural discourse.

With cameras and fertilizer in mind, and amidst the 1848 inflammatory new world of pictorial contingencies, I juxtapose *Whaling Voyage* with pictures from the American Civil War photographer, Alexander Gardner. His practice and eventual studio publications are at the center of this intellectual inquiry. However, it is not Gardner's heralded 1865 *Sketches of the Civil War* that concerns me, but rather his little-known contemporaneous photobook entitled *Rays of Sunlight from South America*, published with Henry de Witt Moulton.

Rays of Sunlight, like *Whaling Voyage*, was a collaborative aesthetic project, though Moulton and Gardner's was a different partnership than Russell and Purrington's. Strange as it may seem for readers today familiar with the magisterial Civil War photographer, the pictures from *Rays of Sunlight from South America* were, in fact, not made by Alexander Gardner but instead captured by the mysterious itinerant photographer Henry de Witt Moulton. Like *Whaling Voyage*, the 1865 publication was a principal act of cooperative synthesis: a visionary endeavor in scope, scale, and investment created by two artists. Gardner printed the positive; Moulton captured the negative.

Predominately composed of landscape images and architectural ruins from Lima, Peru, the photobook is by definition transnational in scope and, similar to *Whaling Voyage*, is consistently maritime minded. Most unusually, the 1865 publication is the first comprehensive visual account of guano. Published adjacent to the cataclysmic violence and death in Gardner's *Sketches of the Civil War*, *Rays of Sunlight* unveiled a stunningly stark archive of fertilizer images. Composed with a keen formal sense, at least twenty-six of Moulton's pictures show this illustrious bird manure. The pictures are regal and terrifying. Often photographed in detail and ceremoniously situated at the center of the frame, the cohort of like-minded photographs divulge the romanticized fertilizer as a monstrosity—an anthropomorphized crop enricher with an intimidating life force of its own.

1 Technological Innovation: Panoramas and Photography

Throughout the 1850s, the mechanized panorama would depict images on canvas beyond even the farthest-reaching mimetic impulses of a camera obscura—the classical phenomenon that according to media scholar Jonathan Crary, "was founded on laws of nature (optics) but extrapolated to a plane outside of nature, providing a vantage point onto the world analogous to the eye of God" (1992, 48). Whereas philosophical awareness of the camera obscura has deep historical roots, only during the sixteenth century did mimetic devices begin to codify dominant modes of visual procedures and optical cognition (Zielinski 2006, 86–89). By the middle of the nineteenth century—amidst shifting scientific and aesthetic discourse—the camera obscura's definitive positioning of

"an interiorized observer to an exterior world" was precarious technical terrain, conceptually unmoored (Crary 1992, 34). In *Whaling Voyage*, nautical landscapes collapsed the boundaries of three-dimensional pictorial space—observer and the observed in flux. Constructed in water-based paint on cotton sheeting, the pallid materiality itself—earthen pigment, dyes, fibrous plant matter, and aqueous liquidity—reinscribed the slippery, extractive ethos of Russell's narrative. Unraveling along four separate spools of canvas, each panel 8 ½ by 12 feet, and accompanied by an auditory address from Captain McKenzie of *The Kutusoff*, the mobile technology activated fantastical cultural terrain.

Beginning in 1848 and intermittently throughout the next four years, audiences along the Eastern Seaboard and as far west as Saint Louis, Missouri, would come to see Russell and Purrington's accomplishments in paint—ships, sea, and sand circulated across the politicized landscape (Huhtamo 2013, 181, 334). Made available in a theater or public hall for paid performance, Whaling Voyage "toured the East, transported by train, ship, and wagon to Boston, New York and as far West as St. Louis" (Mystic Seaport Museum, n.d.). For the audience, fables turned to history, itinerant stories to stable truth. *Whaling Voyage* was a scrolling object ripe for conspicuous consumption—one man's memory transformed through paint into larger than life-size pictures.

On December 20, 1848, whaling agent Charles W. Morgan saw the chronicled *Whaling Voyage* production in Fairhaven. Describing the event, Morgan writes, "It takes wonderfully with the public and the exhibitor Capt. McKenzie carries us along through the various scenes, all of which he has visited interspersing his descriptions with anecdotes & narratives which enhance the entertainment very much" (quoted in Kauppila 2014, 18). For Russell and Purrington, the moving panorama was a deliberately chosen artistic representational medium; a manufactured coherent narrative depicting the scope of travel; an aesthetic product for domestic viewers.

Henry David Thoreau and others would equate the scrolling along of the moving panorama to something of a time machine: "It was like a dream of the Middle Ages," writes Thoreau. "I floated down its historic stream [the Mississippi River] in something more than imagination" (quoted in Saltzman 2014, 247). Summarily, the revolving machine of images was an epistemologically unstable form of interaction. *Whaling Voyage* embedded myriad sites along a pictorial continuum, creating a story line of imaginative vistas. In the newfangled era of regimented visual information circuits and technological pageantry, the nearly 1,300 feet of canvas represented the apotheosis of materialized commodity and fantastical phenomenon. Nicholas Lowe outlines the rhetoric of expansionism and self-agency encoded in panoramic culture—"self-oriented" prosthetic tools, such as a handheld Mississippi travel map—that promulgated a logic of manifest destiny (Lowe 2021, 96–97). *Whaling Voyage* was structured within both the unstable logic of capital accumulation and democratically fraught milieu of the 1840s.

Russell and Purrington's panorama professed to reorganize sight, altering subjectivity for the observer and complicating any stable perceptions of space. Sofia Quiroga Fernandez likewise explains the disorienting, ambulatory scope of the moving panorama as a precarious medium: "The painting was moved by mechanical systems, limiting the

audience's view to a frame or window. Similar to the cinema, the moving panorama immobilized the spectators, emphasizing virtual movement on the screen instead" (Fernandez 2021, 71). As Russell presented *Whaling Voyage* to viewers, a cynosure grid of commerce and sightlines, lectures and explanatory audio purported to anchor the performative space. Scale and immersion were paramount. In the age of scrolling screens, precarious subjecthood and disjunctive pictures were center stage. Selfhood was both physically and psychologically arrested, and some trembling "horror of the void" was made clear in the lacuna of nomadic image: painted scenes were quickly made ephemeral in the shadowy currents of mechanical rotation; fleeting images were seen only in a state of disappearance (Crary 1992, 122–126). Unbeknownst to itself or its makers, the moving panorama represented the fright of *apocalyptic horizons*.

Although at the time of Benjamin Russell's departure in 1841, photography was still in its nascent stages of development, throughout the remainder of the decade, this volatile new medium of exacting verisimilitude would gradually become a dominant force of aesthetic representation. At the decade's end, and by the time *Whaling Voyage* eventually arrived at its first traveling locale, both visual culture and the imaginary perceptual landscapes of the US had undergone a monumental shift. While the two mediums of reproduction operated with dissimilar politics and semblance—verisimilitude and entertainment, industry and capital—both were pictorial crucibles for ongoing cultural formation. The world again turned upside down.

The 1840s, more generally, was an era replete with relatedly quixotic inventions and scientific transformations. In 1844, for example, within that same numinous moment of stereoscopes, photographs, and railroads, Samuel Morse invented the telegraph—one of many reorganizing perceptual instruments. Media scholar Jonathan Sterne explains the momentous revolution in sound-reproducing technologies associated with this new mode of broadcasting as vibrational nets extended notions of space (2003, 20).[1]

As a contemporaneous tool for picturing the world, consider William Henry Fox Talbot's 1845 text *The Pencil of Nature*. Talbot's magnum opus was one of the first commercially published books full of illustrations: its circulation, reception, and dissemination throughout American culture was constitutive of transformations in mass media print culture. He writes of photography as "sun-pictures themselves," describing mimetic images and his effortless praxis of inscription as more substance than mere "engravings in imitation": "The plates of the present work are impressed by the agency of Light alone, without any aid whatever from the artist's pencil" (Talbot 1845). It was a new archaeology of residue materiality and mirror reflections. The prescience of photography's "sun-pictures" and its unknown lifeworld of shadows, light, and image would soon enough disrupt the wider landscape of aesthetic representation. It was

1 "Recording was the product of a culture that had learned to can and to embalm, to preserve the bodies of the dead so that they could continue to perform a social function after life. The nineteenth century's momentous battle against decay offered a way to explain sound recording" (292).

Talbot, Anne Atkins, and other early experimenters with the alchemic medium who sought to harness solar power, project visages, and conceal traces of life.

Describing contemporaneous nineteenth-century literary devices and their novel discursive formations, Roland Barthes concept of "reality effects" helps elucidate the prolepsis of these kinds of pictures. More than narratological, their bombast is the "direct collusion of a referent and a signifier, whereby the signifier is expelled from the sign" (quoted in Crary 1992, 110). Jonathan Crary and Roland Barthes alike explain how concrete details—an inflation of the minutiae—often work to collapse fiction and the real. Notation, alas, usurps the role of "pure encounter." In turn, the referential image (or narrative minutiae) and its indelible expression are at risk of becoming superfluous "narrative luxury," a symbolic fragment transformed into mere vacuous mark (Barthes 1989, 141, 148). In the mid-nineteenth century, hyperbolic credence was fraught with recursion and unavowed illusion. This exaggerated directness of accurate depiction was a monstrosity that transfixed contemporary viewers. In short, an epistemic and psychological paranoia haunt the photograph and the panorama alike. And in this caesura of knowledge, purported efforts to inflate detail or engrave indexicality often only further shade the already foggy edges *of the real*.

Guano in *Rays of Sunlight* is often pictured as an image evacuated of its own indexicality; a symbol that anticipates its own future demise. Moulton's guano photographs are ominous sirens, anti-signifying sites of erasure. Consider as illustrious introduction the picture titled "The Great Heap: 2,000,000 Tons of Guano" (Fig. 2). Alchemically commanding space, the striated nitrogen-rich mound appears like some kind of extraterrestrial domicile. Psychologically disruptive, the photograph is at once a protectively encased living organism and terrifying pile of fowl waste. It repels and welcomes simultaneously. Repeatedly across *Rays of Sunlight* guano is illumined as an intoxicating tonic, a great base that projects its own haunting visage.

In comparison to the more sanitized pictures of *Whaling Voyage*, the unfiltered and brutalizing process of guano reveals a uniquely destructive cosmos of depravity: mankind's propensity for manipulation and greed, a more streamlined—less mitigated and solely human—form of accrual and plunder. Whereas Moulton's pictures began stationed in Peru and disseminated to the continental mainland, Russell's aesthetic making path was insistently migratory. Notwithstanding origin points or programmatic scope, unearthed guano and slaughtered whales alike left a resinous wake of destruction across the mid-nineteenth century: ecocide and visual culture encoded in novel technologies, landscapes and visions.

Maritime photographer and astute art historical critic Allan Sekula's and Walter Benjamin's essays on visual media portend a critical disassembling of imaginary maritime space. Although at first glance the pairing of the two Marxist theorists may appear unusual—spatially disparate and chronologically discreet—their shared insights are indispensable when imagining the optical revolution of the 1840s. Benjamin was one of few early twentieth-century Marxist to extensively theorize both picturing mediums. Writing about photography and the panorama, the great modernist critic examined the

Fig. 2: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "The Great Heap: 2,000,000 Tons of Guano," in *Rays of Sunlight from South America*. 1865. Mounted photos. Public domain.

aesthetic and political terrain of simulated motion and animated spectacle. Walter Benjamin writes, "Announcing an upheaval in the relation of art to technology, panoramas are at the same time an expression of a new attitude toward life. . .In the panoramas, the city opens out, becoming landscape" (quoted in Sekula 1995, 34). He concludes, "The panorama is always implicitly or explicitly militarized: the net can close in from the other side of the horizons" (Sekula 1995, 34). There was a mid-nineteenth century impetus to scrupulously observe a scene; methodically glance at the edges and prosthetically glimpse the abyss.

As importantly, Sekula directly posits the importance of the guano trade in understanding nineteenth-century capitalism, the role of merchant ships, and ocean trade route patterns. Akin to maritime space, the figuration of guano for Sekula is a key analog in primitive accumulation and trade. Acting as foil to read against the grain of both photography and Benjamin's optimism, Sekula's horizontal vision understood the complex anxieties of panoramic viewing. He writes, "Expansive panoramic space is always haunted by the threat of collapse or counter-expansion" (Sekula 1995, 48). The boundaries of representational vision bend inward, and thus some introjected forms of strident violence simultaneously dispel outwards.

2 Travelogue: Sites of Encounter and Primal Scenes

Between 1826 and 1833, Benjamin Russell invested handsomely in at least thirteen different whaling voyages. And yet by 1841, the young New Englander was bankrupt. Whaling vessels were built in the city and returned from their multiyear travels "with barrels of raw products that served as the prime mover of New Bedford's local industries," writes historian Kingston Heath (2014, 9). Russell was shrewd and understood the massive possible payoff of calculated risk. Whereas the global market for whaling was distant and abstract, the immediacy of land speculation on the shore was proximate.

The Russell family participated in the escalating mad craze of capital profiteering in property and land. In fact, according to the New Bedford Whaling Museum (n.d.) "the family's main assets were in real estate." However, after consecutively failed transactions the family's wealth was "subsequently sold at auction," leaving Russell "in debt and without a job" (Mystic Seaport Museum, n.d.). Whether investing in real estate speculation or the global whaling industry, it seems the volatility of market forces and gambit of high-stakes financial capital intrigued the young New Englander. Regardless of venture, Russell and the city of New Bedford alike were all too familiar with the predatorial landscape of antebellum capital: risk and obliteration, spectacle and extravaganza constitutive of the escalating entrepreneurial market ideology.

Throughout the early 1840s, and with an intimate awareness of both dollars and marine life, Russell began to consider a trip to sea. A successful whaling mission (typically at least three years) was lucrative; the potential accumulated wealth of whale oil, bone, sperm oil, ambergris, and spermaceti was astronomical. Likewise, the risk for catastrophic losses (on capital investments)—and more immediately, one's life—were also grave. Regardless of potential peril, the emerging artist Russell took a chance. He couldn't resist the slippery scene of oil, "the docks choked with casks of raw oil covered with seaweed to keep them from drying out as they awaited transport by drays to the oil factories for processing" (Heath 2014, 9–10). As it fortuitously would turn out, Russell's gambit of forty-two months at sea on *The Kutusoff* rewarded him handsomely. In April 1845, the ship arrived back in New Bedford with a plush cargo of sperm and whale oil. William H. Cox was master, and McKenzie successfully captained the Joseph Dunbar and Co.–owned vessel. During the apogee of whale hunting, Russell's multiyear story at sea evolved into a proxy story of US maritime power, industry, and capital: *Whaling Voyage* transmitted in anesthetized detail a perilous romance around the globe.

During the late 1840s, the New England port town of New Bedford was the leading whale port of the world (Heath 2014, 9). The city's motto "Lucem diffundo" (I pour forth light) "referred to the industry that by then provided staple commodities: sperm oil, whale oil fuel, and spermaceti candles" (9). An alchemic mixture of whales, industry, and sea coalesced in New Bedford and lit the nineteenth century ablaze. "The town itself [is] perhaps the dearest place to live in, in all New England," writes Herman Mel-

ville in his 1851 Moby Dick. “All these brave houses and flowery gardens came from the Atlantic, Pacific, and Indian oceans. One and all, they were harpooned and dragged up hither from the bottom of the sea” ([1851] 1994, 45). Melville, like Russell, spent laborious years at sea during the early 1840s and would harness his creative powers to script one of the greatest works of American literature.

While there is no extant sketchbook from Russell’s time aboard *The Kutusoff*, we know that in 1848 he published a first lithograph titled *A Ship on the North-West Coast Cutting in Her Last Right Whale* (Fig. 3). Working alongside Lemercier—a specialist in maritime themes and one of the leading European printmakers—Russell’s picture was transformed into a sophisticated product. Colored by the experienced lithographer August E. F. Mayer, the pictorial site of whale dismemberment is harrowing. The experienced New Bedford whaling audience related to his vision. At the center of the picture, a terrifying gray blade hovers above the ship’s hull. Dwarfing the seamen, the steel fin cuts a limp right whale. A flock of birds swarm the bloodstained ocean surface. Russell’s aptitude as keen draftsman and watercolorist would eventually lead to his position as post–Civil War illustrator for the Whaling History and Methods volume of George Browne Goode’s The Fish and Fishery Industries of the United States—a project funded by the US Commission of Fish and Fisheries (1887).

Fig. 3: Benjamin Russell (American, 1804–1885). A Ship on the North-West Coast Cutting in Her Last Right Whale, 1848. Lithograph. Image, New Bedford Whaling Museum, used with permission.

Whereas Russell could summon images from his knowledge of barges and boatsteerers and his trip aboard *The Kutusoff*, Caleb Purrington often referred to contemporary illustrations for guidance (Fig. 4). His approach to picture-making was more Americana folk, and at times, Purrington even copied directly maritime island scenes from both James Jackson Jarves's History of the Hawaiian or Sandwich Islands and Charles Wilkes's Narrative of the United States Exploring Expedition. This pencil-on-paper drawing from Purrington's sketchbook seems to show a fragment version of the Juan Fernandez Islands. Stenciled letters purport to announce the title page of the soon-to-be panorama. Tilted rocks sway as much as the two boats below, and arched cave dwellings rhyme with festooning palm trees. The sketch shows a fancifully askance version of some vague island landscape.

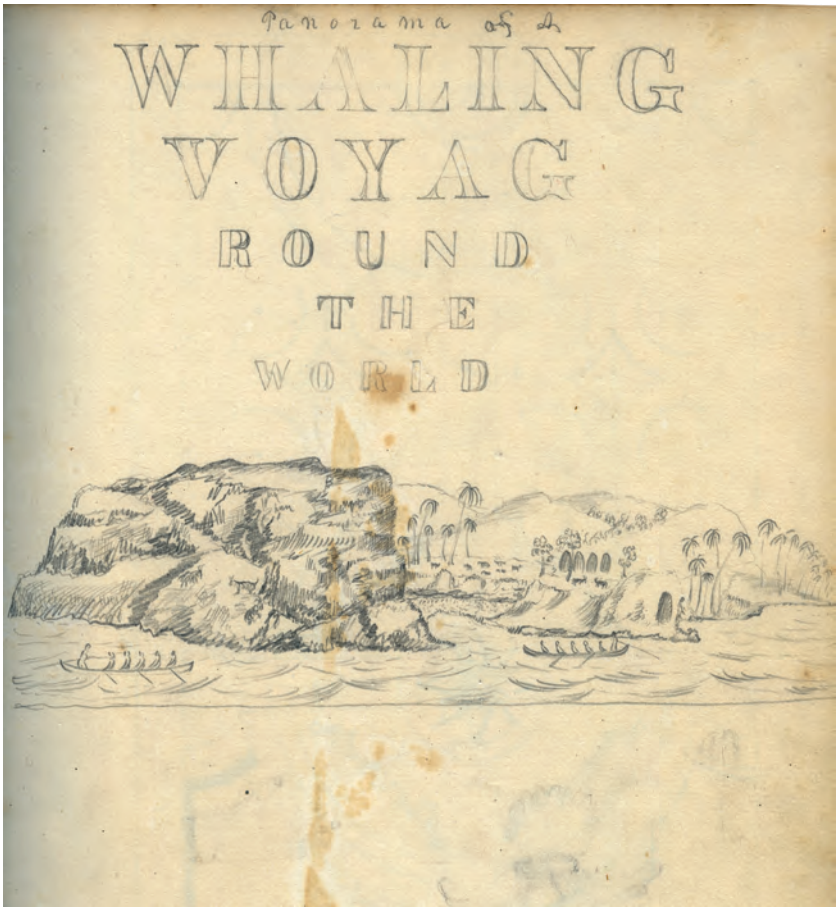

Fig. 4: Caleb Purrington (American, 1812–1876). Sketch of tropical island with whaleboats. Image, New Bedford Whaling Museum, used with permission.

The *Whaling Voyage* panorama itself begins in New Bedford with a view looking west across the Acushnet River. Residents would recognize familiar architectural markers: the New Bedford Steam Mill Company, Wamsutta Mills cotton cloth factory, Taunton Railroads, the Acushnet Iron Foundry. Here in the panorama's second panel, one of many images we will look at closely, the picturesque town of New Bedford is intentionally obfuscated by the meticulously rendered crisscrossing network of ship lines, obscurity and vagary part and parcel with the imperious project (Fig. 5). To highlight this plain yet still picturesque scene, ribbony pale clouds and blue horizontal sheets of ocean brine regally frame the square-rigged ship.

Fig. 5: Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

As we continue with the pictorial template of *Whaling Voyage*, leaving Buzzard Bay, the moving panorama reaches the North Atlantic Ocean, just adjacent to the eastern seaboard. The whaling ship India approaches the entrance of the bay as *The Kutusoff* heads toward the Azores archipelago. One ship approaches dock as another departs. The panoramic dream commences. As the journey *Whaling Voyage* continues onward to open sea, the colors of salt water darken. A set of storms are traversed before the ship advances to Pico Island, the nearest atoll some 2,300 miles due east of New Bedford. The noticeable volcanic peak of Pico is bifurcated—a spewing set of charcoaled smoke merges with nearby clouds, the fiery fumes an analog for the spuming whales to come. Literary scholar Tanya Agathocleous writes, "The panorama attempted to represent the boundlessness of its chosen subject by simultaneously enacting the mind's ability to encompass this 'infinity' through its use of horizon." (2003, 303). More than any other canvas from the 1,300-foot series in *Whaling Voyage*, the Azorean islands are replete with familiar Western emblems: colonial style domiciles and ochre roofs, a pair of churches and windmill, a Portuguese balustrade fortification, and a carefully sculpted agricultural grid of land (Fig. 6). One can imagine the orator magician authoritatively denoting legible icons and cultural signifiers

as the narrative reels of canvas unwound for paying spectators. Beholden to these spoken descriptions and visual depictions was an immersive crucible of sublimity and awe.

Fig. 6: Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

Further south in *Whaling Voyage*, we observe a first panel of human predators on small boats in pursuit of whales: the stalking begins. The first roll of Russell and Purrington's panorama concludes here. It makes narrative sense that following these first anonymous chase scenes, *Whaling Voyage* subsequently depicts the recognizable Bird Island; the natural sanctuary for exotic birds was originally spotted by Captain James Cook 1775. At the entrance of Madeira harbor, just adjacent to the bird haven at far left, a distinctive isle is likewise marked by the recognizable headland of Lyon's Head. Media scholar Shelly Jarenski suggests "the panorama was an immersive spectacle that brought spatial forms—artifacts, bodies, and landscapes—under the control of a spectator's visual power while overwhelming that spectator, making her feel enslaved" (2013, 120n5). Both the mechanical wizardry and uneasy thematic content of *Whaling Voyage* performed a function of relatability, disjoint and displacement. Planar scrolling and amplification of two-dimensional surface eliminated any stable gaze.

With this familiar referent at hand, the following pictures dramatically build up to ashy rainwater sights at Cape Verde (Fig. 7). Thrillingly for spectators, Russell and Purrington visually document the 1847 volcanic eruption at Fogo. While the continuously burning "mountain of fire" was surely not witnessed firsthand by the men, the duo understood the commercial stakes of aesthetic entertainment for the public. Hulls of the ships catch the glaring neon orange reflection of the flaming blast. A tiny boat with two drawn sails seems to recline in fright. The volcanic spewing island panel is foreboding; a pictorial space intent to register the insistent state of trepidation and unrest aboard *The Kutusoff* (and any whaler) on these multiyear journeys.

Fig. 7: Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

Whaling Voyage continues south bound. In stark juxtaposition to the tropical cleft of fire at Cape Verde, *The Kutusoff* embarks upon the land of icebergs. At the start of roll 3, two ships pass each other. While visually unremarkable, the ship Zephyr of New Bedford (with Joseph Sherman as master), flies the conspicuous house flag of Alexander Gibbs. As we will see, the story of Gibbs and whaling is also inextricably bound to the global economic armature of guano. First, however, in Antarctica and around Cape Horn, the oceanic template of *Whaling Voyage* again darkens. Massive waves and matching jagged glacial rocks confound the setting—the intimidating scale of icy mountains and geological fury encompasses the horizon. The cold is palpable. Traveling from the Atlantic to the Pacific, the ship began its trek into 62 million square miles of open ocean. A pod of fighting sperm whales concludes the polar chapter. A world of Chilean bright sultry sunshine awaits.

Some 400 miles from the coast of Chile, we begin to further imagine the durée of the journey: the daydreamt allure of the Juan Fernandez Islands is the next station of *Whaling Voyage* (Fig. 8). Three signifiers delineate the landmass. The first is a cohort of four cave dwellings at center; the portico incisions are framed by a massive cross (not pictured). Second, a strange man at right stands with a staff in hand and goat beside him; the pair seem to represent some shared token of industry or agricultural labor. The third identifying mark of the picture is a textual sign: the fabled history of the island.

Fig. 8: Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

The Juan Fernandez archipelago had long-been mythologized in the literary imagination. This legend goes back to the end of the seventeenth century and the marooned Scottish privateer, Royal Navy officer Alexander Selkirk. It continues through a different uncanny castaway tale: in fact, Daniel Defoe's Robinson Crusoe imported Selkirk's misfortune and locale, altering the historical vignette into his early 1719 English novel of primitive accumulation. The kindred romance and terror of Robinson Crusoe was in Russell's mind as he decided what to paint.

It likewise then too makes some apocryphal sense that the story of Defoe's Robinson Crusoe emerged on a remote island landmass due south of the Chincha Islands off the coast of Lima, Peru. Although the noted Juan Fernandez Islands are further adrift at sea and adjacent to the Chilean coast, relative to the global narrative and trajectory of Russell's *Kutusoff* ship, they are strangely proximate. The principal guano quarry at the Chincha Islands is a neighborhood creaturely referent for Defoe's fable, as we will see.

Allan Sekula and Walter Benjamin outline a tension inscribed in panoramic vision. Both thinkers navigate the panoramic tableaus as an aesthetic site of instability. "The panorama is paradoxical," writes Sekula. At once both "topographically 'complete,'" and "potentially unstable," the technology signals an interminable horizon space outside the limits of its canvas. Indexicality, narrative, and authorship slip between interstices. According to Benjamin, empiricist bravura sought to "make panoramas the scenes of a perfect imitation of nature," and in this furtive act of pictorial deception, panoramas "prepared the way for not only photography but for [silent] film and sound film" (quoted in Sekula 1995, 33). Panoramic devices optically exaggerated the ambulatory act of reading, text and images scrolling alike.

In *Whaling Voyage*, we scan space backward, moving in reverse along a horizontal continuum. Mobilized in space and cloaked in time, the techne implicitly announces an ontological awareness of its own finitude. It is duplicitous. In a beautifully rendered sentence, Sekula writes, "The psychology of the panorama is overtly sated and covertly greedy, and thus caught up in the fragile complacency of disavowal" (Sekula 1995, 43). In other words, theoretically tracking the panorama involves a dialectic of excess and lack. The psychoanalytic language of disavowal, pressure, and diffusion are similar machinations inscribed in both maritime space and commodity circulation—the ebb and flow of goods, capital, and surfaces.

3 Guano: Peruvian White Gold

Coincidentally or not, Russell's 1840s journey was also temporally synchronous with the first commercial-scale shipments of guano. In the early 1840s, Myers and Gibbs—Liverpool and London agents with interests in South America—"vigorously promoted the use of guano in Britain through pamphlets. . . .Within a year, imports of South American guano rose by over 700 percent: 2,881 tons in 1841 and 20,398 in 1842" (Kinahan and Kinahan 2009, 43–44). In the 1840s and '50s, the moving panorama and whales, along with photography and guano, sallied, buoyed, and capsized in a representational whirlwind of seafaring extraction.

The germane roots of guano and photography each separately sprouted their own discreet tendrils of reproducibility: proliferating likeness, fossilized traces, and conspicuous commodity value. While local history of guano is deep, for the Western imagination, the malodorous deposits were first discovered by the inimitable Prussian naturalist Alexander von Humboldt. In 1802, on a second return voyage to Peru, Humboldt seized a sample of the foul potion.[2] Throughout the ensuant four decades, the strange manure was chemically scrutinized and researched in capitals across Europe and locally in Lima, Peru (Liebig [1859] 2010, 27, 45–49). Only eventually, in 1840–41 and at the behest of merchant W. J. Myers, was the first large-scale transnational shipment of Peruvian guano finally exported to Liverpool, England. For the US, the first commercial quantity shipments arrived in 1845, and the sequential guano exploitation—rapid plundering of copious sea fowl and their dung—culminated in the 1856 US Guano Islands Act. Globally, "guano-mania" was rampant and undeniable.

Let us consider more closely the two sea-mining industries, whales and guano—their materiality as circulating commodities in dialogue across the sea. As base precursor, whales, like guano, enabled the continual accrual of enterprising industrial capital in the mid-nineteenth century. For guano, the result was immediate: the powdery dust

2 Edgar Allan Poe's 1848 "Eureka" is dedicated to Alexander von Humboldt—famed Western "discoverer" of guano.

ballooned crop productivity. Similar to other cash plantation crops—cotton, sugar, coffee—both the value and usage of the fertilizer was extraordinary (Hutton 2019, 15). For landowners, yield of production and profit margins skyrocketed with a sprinkle of the matter: "Guano, high in nitrogen and phosphorus nutrients, was tried as a fertilizer, and declared successful, ten times richer than manure. Much less effort was required of the farmer to spread guano on the fields than to spread the equivalent amount of nutrient enrichment from cart-loads of manure. The beginning of the fertilizer industry had come" (Gaines 2007, 12–13).

At the height of its capital value, US president Millard Fillmore in his State of the Union Address on December 2, 1850, even pledged to bring down the soaring and inflated market price of guano. During the attenuated span of the 1840s decade and slow maturation of Russell's *Whaling Voyage*, the panorama-crazed and sea-conquering nation-states of Britain, Spain, Portugal, the Netherlands, France, Germany, and the US, among others, radically transformed the limits of colonial territories—usurping land, fostering empire-building campaigns, and manipulating international markets of exchange (Cushman 2013, 251).[3] The bludgeoning in the guano trade was a central player amid these various forces of revolution.

Amid this storm, the story of guano in *Rays of Sunlight* anchors first in one place, the noted Chincha Islands: "Inquisitive explorers observed that islands along the west coast of South America had guano, hardened and dried bird dung, several hundred feet thick. It had accumulated over thousands of years from nesting colonies of sea-birds" (Gaines 2007, 12–13). In this unusual hyper arid microclimate, it almost never rained. In sum: Peruvian guano was packed with astronomical levels of nitrogen.

At the same time, photography narrated the plot: the verisimilitude of mechanical reproduction produced legible visual testimony. Moulton's electrifyingly ghostlike images—the first ever made of this geologically archaic, white material—portray a comprehensive template, fragmentary and stark, of primitive accumulation (Cadava 2018). Visually descriptive, the photographs map their own transactional milieu and pillage (Fig. 9). As example, "Panorama of North Island, Chincha Islands, with Part of Fleet Waiting for Guano, No. 2" shows a sinister fleet of eight fully rigged ships awaiting their smelly white treasure. Encroaching on the Peruvian coastal waters, clandestine along the glistening ripples of the bay, the booty-searching convoy appears almost too slick. Like a school of stalking pariahs, the stationary caravan waits to raid, their vertical masts like the glare of raised muskets.

3 See Ian Baucom's *Specters of the Atlantic* on race, violence and international trade, along with James Akerman's *The Imperial Map*.

Fig. 9: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Panorama of North Island, Chincha Islands, with Part of Fleet Waiting for Guano, No. 2," in *Rays of Sunlight from South America*, 1865. Mounted photos. Public domain.

As we will see, the remaining pictures not only frame in detail the catastrophic excising of raw material—along with the integrally related networks of indentured labor, capital investment, and base production value—but also meta consciously *announce* (much like a performative speech act) their own maritime function within the wider circuits of market ideology. Mentally sutured together, this small armada of photographs form a kind of phantasmatic topography exposing the life cycle of guano: from rare mineralogical resource, to artisanal-mined earthen material, and finally to trading product ready for distribution and sale. In this way, Moulton's visual epic of guano shuttles between concealed narrative and splintered eco-gothic portraiture. Operating at a nefarious interstice, *Rays of Sunlight* is at once hypnotizing and rapacious, instructional and didactic, hegemonic and classist.

With the release of Gardner and Moulton's 1865 *Rays of Sunlight*, ornithological dung was no longer a mental fabrication. The publication lifted the curtain back on commercial guano, its Peruvian source-world, and the potential concentric rings of global distribution. Their witness to the solid fertilizer core demystified the fetishistic abstraction of capital. Moulton's photograph "Strata of Guano, Chincha Islands" unveils the deposit (Fig. 10). The picture is hauntingly stark—the event of photography atomized to a slab; an extreme close-up of the parched mass.

Fig. 10: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Strata of Guano, Chincha Islands," in *Rays of Sunlight from South America*. 1865. Mounted photos. Public domain.

The hardened deposit encompasses nearly the entire frame: only a sliver of sky at top right breaks the walled facade. A cleft in shadow gouges the guano surface like a branding. This slanting incision rhymes with the tiny sky slit behind. To the left, wedged into a narrow crack, two men toil with pickaxes. Dodging the abrasive sun, they wear long-sleeved gear and protective caps. Their laboring is exhausting even to witness: the drudgery of guano made tangible. Moulton's picture also shows the compact scorching of heat and light. The whitened sun rays of the photograph perversely metonymic with guano's devastation.

Herman Melville further illustrates this sublime fright of whiteness in chapter 42 of Moby Dick. Describing the abysmal apparition of the white whale, he writes, "This elusive quality it is, which causes the thought of whiteness, when divorced from more kindly associations, and coupled with any object terrible in itself, to heighten the terror of the furthest bounds" ([1851] 1994, 177). Unfathomable size attached to white's blistering absence of color presages a unique sense of fright. Albeit unalike the daunting confrontation of ocean emptiness for harpooners, wherein "the shrouded phantom of the whitened waters is horrible to him as a real ghost," the lonely "headland shoals" of guano production were no less harrowing. Working in the Chincha Islands was terror—to face a

bleached stone rock of avarice and blusterous swell of capital. Joseph Victor von Scheffel's enthusiastic poem "Guano Song" (1868) elides the urgent perils of guano on the horizon:

> I know of a peaceful island
> Afar in the silent sea,
> Where around the rocky highland
> Pure billows are foaming free.
> In the harbor no ship is resting,
> No sailor is on the strand;
> And thousands of white birds nesting,
> Are the guards of the lonely land.
>
> To a mountain it rises, and whitened
> By rays of a tropical sun.
> In the rosiest light these sages
> Look down at the future and say,
> In the course of historical ages
> We shall fill up the ocean someday.

In Scheffel's aristocratic humorist vision, the frenzied analog of organic phenomenon and mankind potentiality align in a utopic future age where oceans abound with guano. Nesting birds and pure ocean billows harmonize with antsy ships and toiling sailors. "Guano Song" is a capitalist anthem, a bad faith dream of tropical sun, rosy light, and eternal mountainous growth. The gloss of the sky and sea is its own mirage-imprint of magical money. For the poet and novelist Scheffel, base production and its constitutive labor forces were mere comic ruse, foundational souvenirs for prospective wealth.

Between 1845 and 1853, Peruvian guano exports rapidly soared from less than $700,000 (24,701 metric tons) to more than $6 million (316,116 tons) (Duffield 1877, 38). In this calculated foreign land of otherness, economic exploitation, hammered materiality, and geological ecocide congregated, Gardner concludes, "So great has become the demand for it that half the deposit of the largest island has been removed already; and the probabilities are, that in twenty years the supply will be exhausted." His words were prophecy.

"In after times," Gardner writes in his preface to *Rays of Sunlight*, "these sketches of the Chincha Islands will have a peculiar interest." Indeed, by the second half of the nineteenth century, guano had all but been fully sacked. The invasive language of the Anthropocene was in full force, and "the original estimate of the length of time—one thousand years—that this deposit of the Chincha Islands would suffice for the wants of the world, is destined to prove fallacious" (Gardner and Moulton 1865, Preface). Moulton's picture "Cave at East Point, North Island, Chincha Islands" expands the scope of guano scenery (Fig. 11). Perhaps at first glance mistaken for a Carleton Watkins photograph—something akin to his 1863 Mendocino coast pictures—the craggily site is in fact the epicenter of Peruvian white-gold sludge. The grotto extending offshore is a kind of ghoulish netherworld. Stalagmites appear to recede back into the cliff facade as a whirlpool of salt whisks beneath the cave inlet.

Fig. 11: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Cave at East Point, North Island, Chincha Islands," in *Rays of Sunlight from South America*. 1865. Mounted photos. Public domain.

The solitary oblivion of guano on the Peruvian coast was spectral knowledge shared by Alexander Gardner and nomadic cameraman Henry de Witt Mouton. Consider this ambiguous description of the Chincha Islands site and mineral compound as example:

> There are three Chincha Islands, lying in a line, N. and S., the passages between them being less than half a mile. The wind is always S. and E. and it is never known to rain. The North island is the largest. It is nearly circular, and about one third of a mile in diameter, and about one hundred feet high. Some parts of the coast are steep, high cliffs, and others sandy and rocky coves of gradual ascent from the shore. The heap of guano continues to deepen to the highest point of the island, where it is one hundred feet in depth. (Mathew 1977, 36)

Although its anonymity was conspicuous, during the tumultuous years of the American Civil War, specificity of place was paramount: Guano, Lima, and Peru needed prospective reach. Gardner and Moulton understood this—the psychic terrain of hegemony and imagination in mid-nineteenth century America: a compulsion to possess indiscernible horizons; the periscopic language of vistas; a competitive petit-bourgeoise fancy to collect experiences, tokens, and souvenirs. As rejoinder, no less than fifteen of the sixty-five photographs contain the title "panoramas." The suggestive appellate of the panorama was a calculated stratagem (Fig. 12).

"Panorama of the Town, North Island, Chincha Islands" is a wide-view landscape picture. The panoramic view symbolically usurps the seaside forest of guano photographs. Anything but scenic, however, the shanty town resembles a worn-down California mining camp more than a tropical isle from the southern hemisphere. Moulton's blanket inclinations aimed to encompass this collective nowhere place, a dusty site of suffering. Epitomized by this kind of landscape purview, the Lima pictures widened guano's myopic screen. Like Russell and Purrington a decade earlier, with their exaggerated "three-mile" moving panorama, manufactured aesthetics was shrewd marketing.

Fig. 12: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Panorama of the Town, North Island, Chincha Islands," in *Rays of Sunlight from South America*. 1865. Mounted photos. Public domain.

The unknowable chicanery of the sea was capitalized on by not only whalemen and photographers (James 2012, 123).[4] Presciently, the ocean frontier also became contested political terrain for both the British imperial project and aspiring United States colonial empire. Soon enough, the sea would provide the ideal opportunity for Western powers

4 She writes, "Marx had warned about the ownership of land potentiality to become 'a slave master,' it seems oceans also possessed the leveling capabilities embedded of capital" (123).

to continue their hegemonic aims and seizing of foreign territory: "In 1878, Britain, Russia, China, and the United States, and seven other colonial countries held claim over two thirds of the world" (Benard 2017, 49), and guano and whaling accounted for much of this territorial accumulation.

First, in 1842 the unstable Peruvian government decided to nationalize guano reserves, forming a tight-knit monopoly of the lucrative commodity. Uniquely, however, the English firm Anthony Gibbs and Son—the same flag-flying Gibbs lineage pictured in *Whaling Voyage*—was included in the state-run decree. Throughout the following two decades, Gibbs and Son would dominate British and North American markets. For US commercial enterprising, guano similarly became a central preoccupation: national legislation, property rights, and sovereignty claims were at stake.

An inherently volatile commodity, the fertilizer at once began to entice rampant overspeculation, subsequently fostering the growth of international exchange. Contractual agreements—often mendacious and bigoted—proliferated. Extravagant guano earnings, income, and revenue were embedded in obscure circuits of profit and yields, debts and dispossession. During the 1840s and 1850s, accumulative circulation of the fertilizer twisted a repugnant web of spectral capital. Eventually, US political legislation would intervene. In 1854, US President Franklin Pierce declared,

> Peruvian guano has become so desirable an article to the agricultural interest of the United States that it is the duty of the Government to employ all the means properly in its power for the purpose of causing that article to be imported into the country at a reasonable price. Nothing will be omitted on my part to accomplishing this desirable end. (Chamberlain 1856, 163)

As this shows, by the middle of the 1850s, the rapacious language of US empire-building was in full force. Writes environmental historian John Wine, "Farmers became accustomed to purchasing fertilizers," critically shifting agrarian practices of cultivation, and in turn, the agricultural industry crossed the "psychological boundary between self-sufficient and capitalistic farming" (quoted in Hutton 2019, 67). On the heels of the 1848 Treaty of Guadalupe landgrab and California gold rush, the western limits of United States imperialism began to swell. In 1855, manifest destiny entered the English lexicon, and the following spring of 1856, perhaps in the most significant—and today oft-forgotten—jurisdictional act of US sovereignty, Senator William Henry Edward introduced the bill that would become the Guano Islands Act. The expansionist policy established precedent for future acquisitions of land across the Pacific (Burnett 2005, 784–85).

> Whenever any citizen of the United States discovers a deposit of guano on any island, rock, or key, not within the lawful jurisdiction of any other Government, and not occupied by the citizens of any other Government, and takes peaceable possession thereof, and occupies the same, such island, rock, or key may, at the discretion of the President be considered as appertaining to the United States. (Guano Islands Act 1856)

In 1857, Jarvis Island was claimed by the United States. It remains one of few US-affiliated islands located in the Southern Hemisphere. Adjacent to both the Baker and Howland

Islands—and roughly 1,600 miles from Hawaii—Jarvis was named in 1821 after a British captain's discovery. Howland Island, appropriately however, was renamed in 1842 after a whaling ship's lookout—the family name and fortune built from the massive New Bedford whaling fleet of George Howland, and that island was likewise claimed as US territory in 1857. The foreign enigma of guano and its corresponding success as miracle fertilizer was a transnational haunting; a molten substance from some distant place. Colonial machinations flourished. Instability was rampant, and bird dung was the force to be reckoned with in the middle of the nineteenth century.

The geographic dislocation of both the moving panorama and photobook furthered the psychic mystification of capitalism. Abstract speculation and the bombast of market ideology were concealed alike in the graphic allure of the two artworks *Whaling Voyage* and *Rays of Sunlight*. Circulatory economic journeys of guano and whaling continue the narrative.

4 Capital and Spectacle

After 2,900 miles of open sea, *The Kutusoff* would sight the long-awaited Pitcairn Island. Corresponding to the vast horizontal plateau of ocean surface, the long-awaited Pitcairn Islands in Russell and Purrington's *Whaling Voyage* (Fig. 13) is nearly nondescript—a mere nomadic rift in the maritime matrix, a tableaux picturesque stage. Visually, the picture appears uniform. At center, a mound of green earthen fecundity rises like a cocoon. Two ships, one larger at left, frame the rocky island shore. In front, a large gray guano-like sediment rises; two tiny boats paddle nearby. Pastel pinks, blues, and white construct the sky and sea in unison. Lacking depth of space or a traditional vanishing point, it is as if western perspectival space dissipates equally along the panoramic panel. In its place, a stringy attenuation of washed-out aqueous colors organizes the pictorial space.

If the painting is nearly rogue and placeless, similar to that of Juan Fernandez, seen earlier in Purrington's sketch, three icons distinguish the site. The so-called Nose was perhaps the most prominently noticeable sight (of any during the long trip) for ships lost at sea. Delineated by Russell and Purrington as some kind of queerly tottering rock, in fact the emblem seen at top right had long been a geological marvel. The Nose is one of very few distinct demarcating sites that can be seen from afar. As plain are the other two indicators. The second pictogram is the massive banyan tree: hanging limbs dangle to the ground and a bushy arboreal crown of green enlivens the space around it. The tree, like the Nose, was myth of old. Finally, notice a deep incision at the right corner of the clay island. While some kind of superficial plantation grid scours the topography, the reddened chute near the island's tip is a measured wound. Displacement of the shoal reaches into sea. Calculation and capital, barbarism and plenty dovetail in this lesion with the scraping logic of profit. The land of Pitcairn Island put to good industrialist use.

Fig. 13: Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

Further westward at sea *The Kutusoff* arrived in Hawaii. Between July and December 1843, at least 139 American whaling vessels made port in Lahaina, Hawaii. As a frequented port of call, Lahaina was a principal site of economic transaction. During the entirety of *The Kutusoff*'s forty-two-month voyage, Russell sent home a staggering ten thousand pounds of whale bone to the New Bedford harbor. While the majority of the fourth and fifth rolls of *Whaling Voyage* have been lost, it appears regardless that the most dramatic sections of whaling hunt occurred in the Northwest Coast of North America.

Recall too, before 1835 nearly all published images of whales and whaling voyages were derived from European sources. Russell was a businessman and intent on showing a comprehensive scene of whaling hunt (Fig. 14). In one such scene, set at night, whales nearly outnumber the fleet of ships. In the smoky twilight of the foreground, smaller boats and their boatsteerers proximately approach the chaotic primal spot of action. In one particularly gruesome panel a harpooner flails into the sky—his oar broken, and boat cracked in half by the tail thrashing whale. Rapacious for the baleen of right whales, the site of gore continues with a cutting-in process for both whalebone and blubber.

Over the first half of the nineteenth-century, right whales (often called "seven-foot bone") had been completely decimated: the industry had become, in effect, unviable for commercial industry. In response to this loss, Russell and Purrington's initial brief hunting sequences in the Atlantic depict sperm whaling. Notoriously more dangerous and difficult to trap, the sperm whale was a different kind of oceanic colossal for har-

Fig. 14: Benjamin Russell and Caleb Purrington (American 1804–1885; American 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum, used with permission.

pooners. Regardless, "seven-foot bone" right whales were still the most hunted North Atlantic species and genus familiar to New Bedford. Russell understood the meaningful business strategies involved in picturing the right whale trade and made pictures recognizable to the masses. The species had long been a staple good in the old New Bedford economy. Not by chance then, Russell and Purrington would soon enough paint right whales. Here on the North Pacific side of his *Whaling Voyage* journey, hunting fervor for these endangered animals transcended any base maritime compass coordinates. The whales' spectrality and near extinction haunt the panoramic project:

> The animals targeted in this fishery were North Pacific right whales (Eubalaena japonica). . . .Russell himself spent months on the Northwest Coast hunting these large, dangerous and valuable whales. The Northwest Coast was a special target for New Bedford owners and agents as the whales, while wild and unpredictable, were abundant and large, some individuals making 300 barrels of oil. (Davis, Hutchins, and Gallman 1987)

In that formative year of 1848, Lewis Temple invented an improved harpooning instrument. An esteemed blacksmith and abolitionist, Temple was a Black man born in Richmond, Virginia. He moved to New Bedford in 1829 and was soon thereafter elected vice president of the New Bedford Union Society—the city's first antislavery assembly. Forging iron with fire, Temple fabricated the new killer tool in spring 1848. Coined the Temple toggle iron, the weapon had a pivoting head with barbs able to further embed inside the whale's flesh. That same year, on July 23, 1848, Thomas Welcome Roys—an avid whaleman from the eastern seaboard—departed from Sag Harbor, New York, aboard the bark Superior headed to the Arctic. Therein he discovered the Western Arctic Bowhead—colloquially deemed new-fangled monster—and soon after patented his own tool of savagery. Roys developed whale rockets, and his novelty streamlined the obliteration of all different kinds of whale species moving forward. Over the next decades, these two draconian inventions dramatically transformed whaling in the

Northwest Coast—their violent campaign incessantly altering ocean ecosystems in tandem with the lust for profit and flesh, resources made cheap.

This kind of masochistic vision of the natural world finds a vile equivalent in the specters of slavery haunting panoramic practices. John Greenleaf Whittier's long abolitionist period poem "The Panorama" (1856) not only paints a visceral picture of slavery but also orients the hierarchical narrativizing of panoramic culture. For Whittier, the gargantuan visual tool was a missionary of capitalism and classist segregation, a technology inexorably linked to racist system of exploitation (Whittier 1856, 336). Challenging the episteme of the panorama, Whitter's poem activates the language of time travel. Aesthetics and bodies together materialize in a schism of reality, kin to *Whaling Voyage*—a world of otherness engendering at once both a sense of joy and terror. Relatedly, Shelly Jarenski outlines ways the panorama indelibly "combined the joy of domination and the joy of illusion together in a powerfully disciplinary space" (2015, 120). Whereas the hegemonic operations of the circular panorama are often allied with tropes of panoptic surveillance and power, the moving panorama likewise shuttled in experiential fright. Mobile picture performances conflated the ideas of perception and race, epic and scale, media technologies and exploitative labor—human and nonhuman similarly. Jarenski explains the bodily encroachment of the panorama; a phenomenological logic with "visual-spatial linkages of the artifact, body, and the land" (2015, 68–85). Subjectivity and self-autonomy oscillate within the darkened hallucinatory space of the panorama, its all-encompassing motion pictures.

Comparative literature scholar Guido Mazzoni's *Theory of the Novel* describes the logic of narrative and its persuasive sway in the nineteenth century: "Choosing to tell a story. . .means to accept an ontology: it means to assume that reality is composed of particular beings who are subject to time, agitated by an imbalance, and located in the world" (2017, 350). *Whaling Voyage* and *Rays of Sunlight* both capitalized on the aesthetic predilections and political agitations of the era. Their formal conventions and narrative thrust projected a cosmos of pictures at sea: an authorial point of view, an imaginary plot in sequential geographic order, oceanic arenas evacuated of singular personhood, the detailed magnification of objects.

In *Metahistory*, historian Hayden White similarly notes this crucial nineteenth-century approach to narrative. Through a vantage of fractured labor and capital, White suggests Marx apprehended the historical field in a "Metonymical mode." Importing a transhistorical sensibility, "[Marx's] categories of prefiguration were the categories of schism, division, and alienation" (White, 1975, 281). The atomization and recursion of *Whaling Voyage* unconsciously project this kind of anxiety and estrangement. *Rays of Sunlight* similarly tracks the accumulation of capital—guano precisely—and the deleteriously dehumanizing process of extractive labor. In the first volume of Capital, Marx reflects acutely upon the failures of scientific soil advancements with the fertilizer. He ultimately laments that "forced" and injudicious "manuring of English fields with guano" for large-scale capitalist agriculture only worsened matters (quoted in James 2012, 115). For Marx, the process of historical transformation manifested as a "pano-

rama of sin and suffering" (quoted in White 1975, 108).[5] The vapor of guano erased any potential hope for environmental or societal change.

The town of New Bedford, meanwhile, continued to dominate the global whaling industry. From 1825 to 1890, "the port's vessels, on average, represented more than fifty percent of the nation's whaling tonnage" (Davis, Hutchins, and Gallman 1987).[6] Financial capital, fractured seafaring bodies, and a motley of whale products pervaded the coastal environ. New Bedford "refin[ed] greasy barrels of liquified whale blubber into valuable oil and clean-burning candles" (Ayers 2023). Describing the local New Bedford harbor through metaphor and poetical ekphrasis, Heath likens the panoramic scene of bristling mastheads to a densely wooded landscape of trees: "The large number of whaling vessels in New Bedford's port formed forests of mastheads that stood out against the skyline" (Heath 2014, 10). Ships composed of wood—metonymic with their own erect forest mastheads—lurk threateningly across the panoramic New Bedford sky. As if totemically charged, the heraldic band of spindly poles doubly perform their own purported dominance. In the darkened nests of collective nightmare, a cosmos of extinction and eschatology looms like some unknowable lunar sublime—an apparitional and haptic white whale, just below the surface edge and always too near at hand. The ongoing perils of labor's alienation and a future quotidian world of conspicuous consumption align in Russell's pictures and Moulton's fragmented photographic tale.

All the while, the inventive epoch of photographs and steam engines, railroads and telegraphs, continued to generate new "input-intensive agricultural practices" (Cushman 2013, 251). Industrial scale changes and ideological shifts only further appended the dislocation of oceanic mining and local agrarian farming. Relatedly, political subterfuge and salacious economic maneuvers propagated "colonial corporate mentalities" (Gootenberg 1993, 21). And all across the US, guano speculation was thriving: the alchemy of finance predicated on this invisible, unusually rare commodity. Statutes and geography alike were intentionally ambiguous. Throughout the end of the 1850s, a cartographic blankness continued to accelerate profiteer fantasies in the Chincha Island.

For the population of indentured workers, the extractive process and costs of mining the solidified excrement were far from an uncertainty. Life was daily horror and death was always close at hand. Another blazing white photograph, "Loading Cars with Guano at the Great Heap," visually articulates this sense of desperation (Fig. 15). Pictured more like a penal colony of oppression than an agricultural site of labor, "Loading Cars" reveals bodies abused. Bereft hands gravel in sweat and detritus. Ostensibly asked to pose still for the camera, four men at center stand atop a rickshaw trailer. It is hard to differentiate the wheeled set of grooves below and behind. Entrenched in a titanic white sea of guano, the direction of death doesn't matter—whether they are going toward it or fleeing away, the

5 Writing on Michelet, White notes, "For him, a poetic sensibility, critically self-conscious, provided the access to a specifically 'realistic' apprehension of the world" (149).

6 Davis, Hutchins, and Gallman's 1987 paper offers a detailed account of ship typology, whale specimens, and the whaling industry position in the circulation of nineteenth-century global capital.

packed nitrate is a poison. At right, two men toil. The pushing torque of their struggle is explicitly palpable—zealous work juxtaposed to the imperial guard who stands threateningly nearby, stoic with his colonialist helmet and upright musket. The accelerated socioeconomic revolution of worldwide capital was built atop this grinding industry: abstraction of labor, covert transmission of commodities, and pictorial archives ensconced the globe. A lair of pillage and profit, Moulton's documentary impulse charted the putrefied muck.

Fig. 15: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Loading Cars With Guano at the Great Heap, Chincha Islands," in *Rays of Sunlight from South America*. 1865. Mounted photos. Public domain.

As to be expected, recruitment to mine the guano mound posed a challenge. In fact, subjugated laborers and servitude comprised nearly the entire workforce. Local indigenous men, army deserters, convicts, and imported slaves from the US mainland were all imprisoned workers, isolated to the mine. There was "little voluntary movement of workers to the guano islands," writes historian W. M. Mathew (1977, 40). Indeed, the backbreaking labor and extreme isolation of the Chincha Islands was a critical impasse for the plantation-owning gentry (hacendado) class of mine owners, local Peruvian and foreign investors alike. However, a major turning point in recruitment came in 1849 with the introduction of indentured workers from China.

Beginning in 1849, the production of guano was dominated almost exclusively by Chinese slave labor pacts (known by the pejorative term "Coolies"). The transfer of laborers and contracts was arranged through ports in Macao, and by 1857, the number of Chinese persons indebted to the fertilizer island was exorbitant. In total, more than ninety thousand Chinese men were transported to Peru over a two-decade period (Gonzalez 1989, 390). "I observed Coolies shoveling and wheeling as if for dear life and yet their backs were covered with great welts," writes one American observer, George Washington Peck (1854, 200). We see this unmitigated racialized violence in "Chinamen Working Guano—Great Heap—Chincha Island" (Fig. 16).

The magnitude of the picture feels biblical. Seen only in a glance, the pulverized pyramid might well be construed as some sandy Egyptian desert—perhaps the mammoth sphinx pictured from an askance vantage. Moulton's extreme close-up view and straight-ahead perspective only further augment the archaic bareness. However, crammed in between cavities of stone and shards of light, we begin to witness an inconspicuous constellation of figures: a cohort of Chinese men stand atop the undulate ridges. Dark silhouette visages of three workers hover along the topmost tier of this stuffy excrement. Scalding in the Peruvian heat, the thunderous mountain picture is a trap. Two wheelbarrows anchor the quarry. And just above these wood-wheeled tools—drenched in a light leak caused by the camera—a man bent over creeps off stage. "Chinamen Working Guano" is less a golden scene of tomb raiding and more a necromantic Pompei prophesy: ruins and magma effigies reborn inside deprived bodies laid to waste. The photograph is an apparition.

While in theory Chinese miners entered freely into contractual agreements, most of the promised assurances were specious. Kidnappings were common. In fact, many Chinese indentured workers were duped into thinking their final destination was California—a trade-off for a potential *el dorado* future in gold, notwithstanding the eight-year contracts and brutal conditions of gold-digging. The cunning avarice of guano traders piloted one's displacement. "It is easy to distinguish Coolies who have been at the islands a short time from the newcomers," writes Peck. "They soon become emaciated, and their faces have a wild despairing expression. That they are worked to death is as apparent as that the hack horses in our cities are used up in the same manner." (1854, 209–210). In the slosh of guano, human life was bludgeoned to the lowest common denominator: brutality and death were the only certainties for workers in Chincha.

"Shoots for Loading the Lighters with Guano" is a finishing picture (Fig. 17). The cycle of extraction complete, loosened guano was shoveled into special enclosures—canvas shoots called mangueras. This final task was a hazard. To avoid poisoning and asphyxiation, shifts for offloading the lighters into the ship holds were limited to twenty minutes: "Loaders could emerge from the ship holds bleeding from every orifice in their heads" (Mathew 1977, 51). The danger of falling into the shoots was also a liability. Death was common and, "accordingly, reserved for free laborers: a dead contract worker represented lost money" (Mathew 1977, 48). Moulton's photograph shows us three cascading pipes of product. Above, two workers receive a makeshift pushcart and

Fig. 16: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Chinamen Working Guano—Great Heap—Chincha Island," in *Rays of Sunlight from South America.* 1865. Mounted photos. Public domain.

Fig. 17: Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). "Shoots for Loading the Lighters with Guano" in *Rays of Sunlight from South America.* 1865. Mounted photos. Public domain.

rest atop a "special enclosure." Below, two (maybe three) blurry lighters receive the rifled manure. The grated guano here is a messianic smear. The plundering abomination was complete, even the camera's shutter speed couldn't fully envision the scene.

To be deceptively made placeless and worked to death—it was a cruel world, one that whalers of the time would have known in their own way:

> In the months of November (1853)—wrote an American mariner—I have heard fifty of the boldest of them joined hands and jumped from the precipice into the sea. In December there were twenty-three suicides; this is from one authority; in January quite a number, but I have not learned how many. I was a few days since on the South Island, and there saw two of the most miserable starved creatures. They had swam across on their wheelbarrows, and fully determined to die. (Mathew 1977, 49)

Whereas the panorama sought to idealize landscape and history—amplifying cartographic thresholds and individualizing subjectivity—photography ambiguously archived time through a kind of mechanical logic. In doing so, photography at once auratically enlarged the world and disclosed a fragmentated notion of *the real*, the objecthood of *things* made temporally still. Photographs operated in a doubly ambiguous cauldron of authenticity and mechanical reproducibility. While a pathos of limitless imagination and horizons informed both these dueling technological systems, it was the reproducibility of the camera that officiously reified sea space, an agenda able to "domesticate the maritime sublime by converting its perceptual properties into the raw material of still life" (Sekula 1995, 48). Situating Henry de Witt Moulton's photographs as keenly central in this base process makes dire sense: geological levels of guano accumulation staining the ocean floor—both pictured and reproduced.

5 Conclusion

In the cultural arena, whaling and guano manifested in divergent valances. Whereas Russell's painted moving panorama *Whaling Voyage* represented the culmination of his singular industrialist trek at sea, unearthing guano—a massive heap of solidified muck—required a different method of pictorial documentation. The auratic allure of this archaeological material summoned photography, the newly minted tincture of mechanical reproduction and verisimilitude. Bird poop, like maritime whaling rights, had become at once a bureaucratic and legal, environmental, and aesthetic phenomenon.

The scope of oceanic plunder through these parallel industries of excavation was remarkable, an environmental reckoning and catastrophe to behold—"neo-ecological imperialism," as it is explained by historian Gregory Cushman: "The guano trade finally took off in the 1840s as an extension of the vast hunting industry that was emptying the world's oceans of whales and fur-bearing mammal" (2013, 27). In other words, the extermination of ocean creatures and marine lifeforms was part and parcel with the rapid mobilization of rare nutrients and earthen commodities. New extractive industries desiring to multiply nitrogen, phosphate, and potassium supplies soon "fundamen-

tally altered the chemistry and ecology of soils, aquatic ecosystem and the atmosphere all over the world" (252). Guano was king of the trade. Along the way, sophisticated methods of capitalist mining accelerated biological destruction, and networks of industrial greed further exposed the dire ethos of the Anthropocene.

At the conclusion of 1860—that formative mid-century decade—the American writer and abolitionist Ralph Waldo Emerson would publish a persuasive essay titled "Fate." As keen witness to both the tribulations and glories of the US experiment in democracy, Emerson recognized the despair and anguish of guano. He spoke explicitly and metaphorically of the wake and wreckage in the trade. Emerson writes,

> The German and Irish millions, like the Negro, have a great deal of guano in their destiny. They are ferried over the Atlantic, and carted over America, to ditch and to drudge, to make corn cheap, and then to lie down prematurely to make a spot of green grass on the prairie. (Emerson 1860)

In a magnificent sentence, Emerson evokes the pit and plunder of the mineral resource. His vision is capacious and reads as synecdoche for the wider political-economic landscape inscribed in guano. Having a "great deal of guano in their destiny," he elicits a cataclysmic demise for all agrarian mine workers. Trekked over the Pacific and ferried across different transatlantic passageways, the Irish like Germans, Negroes like Chinese, are together made to toil at the behest of profit and yields, their lives made void. And as Emerson's line concludes—the drudgery of ditches dug, and corn cheap lugged across the prairie—forced laborers have accepted their own desperate fate: a premature, siteless and forgotten patch of guano-stained green grass to die in.

The circulatory logic of capital accrual cannot be adjudicated from this racialized labor and commodity fetishism. Emerson's vision teaches us low-priced goods and blood labor alike are phantom figures carted over the US landscape in oblivion: the rapacious decimation of peoples and land indelibly bound together in the guano trade. At the time of Emerson's prose, skyrocketing global demand and booming trade value for guano had swayed all kinds of American investment. Likewise, during the early 1850s, as Russell and Purrington toured their momentous canvas marvel, speculators from New York, Boston, New Bedford, Fair Haven, and other coastal cities continued to opportunistically scheme about future potential profits at sea. Dovetailing dollars and habitual violence acting in tandem nefariously transformed the globe.

Some of the most formidable trading players in the region were the Shiverick brothers—a notorious New England family with entrepreneurial ties back to 1815 and East Dennis, Massachusetts.[7] During the late 1850s, the US government too became more integrally involved in the guano business. The twenty-two-gun warship *U.S.S. St. Mary*, for example, in August 1857, visited New Nantucket and the Jarvis Islands in the remote Pacific. Therein, commander Charles Davis was ordered to collect specimens

7 East Dennis has its own unique historical archive of whaling and early nineteenth-century capital accumulation on the Eastern Seaboard.

of guano. After a brief and successful mining campaign, the team sent back samples to the recently constructed Smithsonian Institution in DC for analysis. Government and resource excavation, sovereignty and military missions crossed reprehensible paths across the Atlantic and Pacific equally.

In this tumultuous zeitgeist, the business savvy Shiverick brothers decided to change their commercial allegiances. Originally incorporated not far from New Bedford, the Shiverick Shipyards company had long "built sailing vessels that sailed all around the world" (Gaines 2007, 11). Up-to-date technologies of clippers and schooners had been key factors for sustained growth in seafaring business throughout the century, making the family a consistently dominant force. However, by the 1840s, prognostications of economic collapse in the whaling industry were flagrantly obvious for investors. The ocean mining Shiverick crew was ahead of the curve.

Hedging their bets, the brothers closed the Shiverick Shipyard and moved onto different maritime-related careers (Fig. 18). In 1859, while brother David was still captaining ships, Asa Jr. and Paul helped to incorporate the Pacific Guano Company in Woods Hole. Located directly across Buzzard Bay from New Bedford, Woods Hole was a sleepy ocean town. Soon enough however—and as expected—the fertilizer trade would accelerate, and guano, the company's main ingredient, would continue to scourge the globe. The desolate stereoscope—boarding house, three-masted bark, gravely shoal, and smokestack plant—tell the story. Whale offal and some foul mixture of bird-fish gurry wafted over the coastal region. Replacing whales and harpooners, the same Shiverick clippers began to now transport cheap labor and dung from the Pacific to the Eastern Seaboard. A world of ships and routes again entangled fertilizer and whales—some alchemic confluence of capital made manifest in the light of pictures.

Fig. 18: S. F. Adams (American, 1844–1890). Stereo view of the Pacific Guano Company on Penzance. Circa 1890. Photograph. Courtesy of James W. Mavor Jr. Collection.

6 Coda

Russell's 1866 watercolor *Whaler among Icebergs* is a snowy white scene of fright (Fig. 19). At center, some ghost version of a stationary ship merges with ice and sky, sea and haze. Engulfed inside three chiseled glacier mounds—two on the horizon, one below—the three whaling masts seem more marble cenotaphs than canvas sails. In this eerie post–Civil War site of apocalypse, silvery smudges, gray shades, and a few pitch-black marks only add to Russell's gothic allure: the Arctic uncanny.

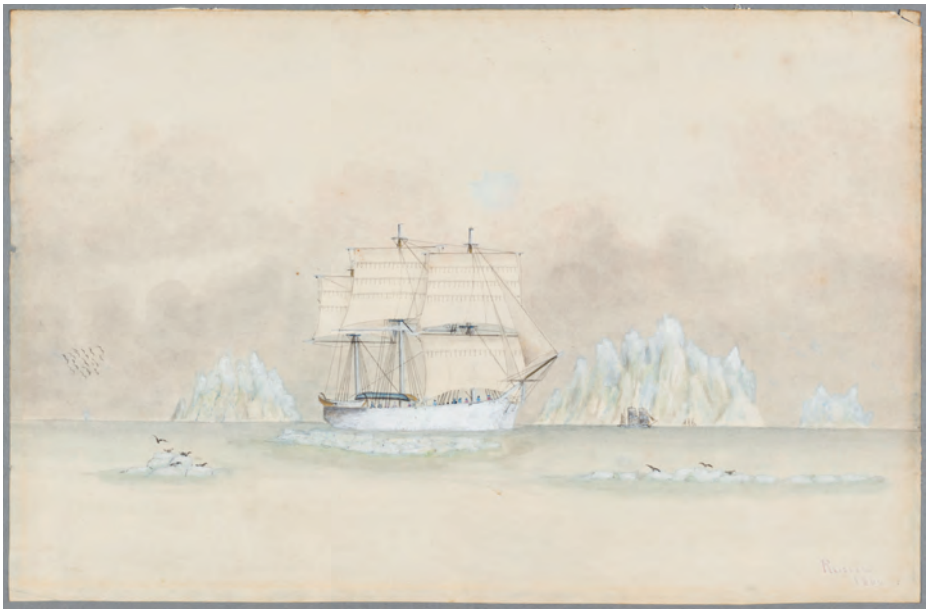

Fig. 19: Benjamin Russell (American, 1804–1885). Whaler among Icebergs, 1866.

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