Suffering For Science
Rebecca Herzig

Published by Rutgers University Press

Herzig, Rebecca.
Suffering For Science: Reason and Sacrifice in Modern America.
Project MUSE. muse.jhu.edu/book/17241.

For additional information about this book
https://muse.jhu.edu/book/17241
As with pure science, a certain lack of utility defines Arctic polar exploration. Explorers themselves are quick to point out that, to reach the pole, is to reach a “fruitless” place. Devoid of the gems, minerals, and spices of Africa and the Americas, the frozen polar sea offers no tangible reward. In the words of one historian of the Arctic, the pole “might be regarded as the most useless piece of real estate on earth.” Of course, there were furs to be had in some parts of the Arctic, oil in others, and even the pole itself could turn a profit: the names of America’s two most famous North Pole explorers, Frederick A. Cook and Robert E. Peary, would eventually be used to hock everything from Bibles to footwear. Yet turn-of-the-century polar explorers emphasized the Arctic’s manifest lack of practical usefulness. “Nowhere else,” concluded one Norwegian explorer in 1911, “have we won our way more slowly, nowhere else has every new step cost us so much trouble, so many privations and sufferings, and certainly nowhere have the resulting discoveries promised fewer material advantages.”

This recurring emphasis on the uncompensated character of explorers’ privations highlights the dilemma of contractual exchange underlying the ethos of sacrifice in the late nineteenth century and the tensions between voluntarism and coercion at the heart of the contract. To what end were polar explorations undertaken, if not for evident “material advantages”? How did American explorers, and the middle-class reading public to which they were bound, frame the relation between knowledge of the Arctic and individual suffering?

This chapter examines the explorers’ ethos of willing sacrifice, tracing familiar patterns of exclusion and ambiguity in their accounts of voluntary privation. While depictions of suffering have suffused narratives of exploration for millennia, the conjunction of science and exploration in the late nineteenth century reformulated understandings of individual sacrifice, tying American polar explorers to the larger traditions of possessive individualism I have al-
ready discussed. Focusing on statements circulated by and about explorers Peary and Cook, I show how their access to volitional suffering—and the testimonial credibility that this access helped engender—depended on existing forms of racial, economic, and sexual privilege. As before, this access was not absolute or fixed; and fractional levels of credibility and vulnerability were afforded variously to bodies understood as Eskimo, Negro, or white, female or male. Moreover, the privilege to suffer for Arctic science was caught in the familiar paradoxes of liberal selfhood: the tensions between liberty and compulsion, self-possession and self-forfeiture. Even as Cook and Peary described themselves as self-reliant pioneers, their descriptions of volitional suffering illuminate their entanglement in new forms of dependency and obligation.

The chapter treats only U.S. discussions of exploration; other nations affixed their own normative repertoires to the Arctic. (In Sweden, for instance, turn-of-the-century polar explorers were often likened to ancient Vikings.) American explorers were profoundly shaped by events and processes unfolding transnationally, and I discuss the most relevant of these developments, showing how international changes in practices of polar exploration encountered the revisions of selfhood, science, and sacrifice ongoing in other spheres of American life, which in turn furthered new principles of reasonable suffering.

In light of explorers’ repeated stress on the disutility of Arctic exploration, explaining their willingness to return to the death-dealing pole provides a challenge. One historian concludes that so much hardship endured for so little obvious reward provides “vivid testimony to the irrational element in exploration.” Explorers themselves have referred to this irrational element as “Arctic fever,” a “malady” for which “there is no cure but to put the patient on ice.” Others describe the compulsion to reach the pole as a “drug,” a “spell,” or a strange “instinct” akin to a sexual drive. Most frequently, turn-of-the-century American explorers portray their motivations as essentially religious, not a drug but a quest. In their accounts, the ice becomes an “Arctic Cathedral,” the explorers become “disciples,” the pole a part of the “Heavenly Kingdom.”

These religious images might be said to emerge from the nature of the pole itself. For unlike the stick of wood discovered by Winnie-the-Pooh during Christopher Robin’s “expotition,” the pole is not a perceptible landmark on the earth’s surface. It is instead an invisible ideal, an imagined mathematical point in the center of an ice-littered ocean. The “boreal unknown” can be approached only haltingly; physical movement must be paired with repeated mental corrections, adjustments, and computations. Although at first glance, the pole seems eminently reachable (unlike the receding truth pursued so diligently by “pure scientists”), it exists only in another, immaterial space. One polar voyager recalled standing around nervously in 1909 as the expedition’s commander lay on his stomach calculating sextant observations on a piece of tissue paper. After
weeks spent sledging across the restless, semifrozen polar sea, the end of the
journey was revealed not by a mark on the ice but by some apparition within the
slim paper’s smudged figures. Another explorer reported a similar stuttering
advance on the pole in 1908. Determining his position to be 89 degrees, 59 min-
utes, 46 seconds, he realized the pole was “in sight.” He “advanced the fourteen
seconds, made supplementary observations and prepared to stay long enough
to permit a double round of observations.” The pole moved into the explorer’s
field of vision only after he collected further data and meditated on the relation-
ship between those data and the laws of spheroidal trigonometry. At the globe’s
northernmost point, geographical exploration—the quintessential scene of
western man’s confrontation with new physical worlds—becomes an extended
meditation on the intangible, the abstract, the meta-physical. In the words of
one commentator, the North Pole represents “human striving for what is ap-
proachable but never fully attainable.”

The seemingly timeless affinity between the search for the pole and
“human striving” for the infinite, however, should not blind us to the particu-
larities of the religious metaphors used to describe late nineteenth- and early
twentieth-century American expeditions to the Arctic. Unlike the genteel devo-
tion advocated by university-based pure scientists, turn-of-the-century polar
exploration appears to rely on a bloody, lethal obsession. The quest for new
knowledge entailed not merely penury and solitude but a ride with death itself.
Consider one widely reprinted 1909 poem, a paean to controversial Arctic ex-
plorer Robert Peary. The second stanza of Elsa Barker’s “The Frozen Grail” reads:

To conquer the world must man renounce the world?
These have renounced it. Had ye only faith
Ye might move mountains, said the Nazarene.
Why, these have faith to move the zones of man
Out to the point where All and Nothing meet.
They catch the bit of Death between their teeth
In one wild dash to trample the unknown
And leap the gates of knowledge. They have dared
Even to defy the sentinel that guards
The doors of the forbidden—dared to hurl
Their breathing bodies after the Ideal,
That like the Heavenly Kingdom must be taken
Only by violence.

For Barker, religion and polar exploration do not share pacific human striving
but instead hurling, bodily violence. This assumption, as we will see, came fairly
late to the field of Arctic exploration and was tied to broader transformations in
practices of science and norms of manliness. Our guides through this discussion
will be the American explorers Cook and Peary.
The feud between them is well known. In the autumn of 1909, fifty-three-year-old Robert E. Peary sent word to the Associated Press in New York City that he and his four-man party had reached the North Pole on 6 April 1909—the first time in history. Peary’s triumphant declaration, however, arrived just five days after another American, forty-four-year-old Frederick A. Cook, declared that he and two assistants had reached the pole in April 1908. Even Peary instantly denounced Cook as a liar and a fraud. Cook, initially reserved about Peary’s claim, eventually branded Peary as an adulterer, murderer, and liar. The men’s bitter dispute over polar priority soon engaged much of the country, pitting self-described “Cook-Americans” against legions of “Pearyites.” Countless articles were printed with titles such as “Dr. Frederick A. Cook—Faker”; countless photographs appeared such as one of an Eskimo woman and child, allegedly abandoned by Peary in Greenland, captioned, “Polar Tragedy—A Deserted Child of the Sultan of the North and Its Mother.” Ignited by these inflammatory publications and fanned by the enthusiastic participation of hundreds of thousands of opinionated citizens, the controversy occupied the attention of the National Academy of Sciences, the U.S. Congress, and a number of international geographic organizations. For two full years the dispute permeated news reports on both sides of the Atlantic.

My discussion of Cook and Peary will neither attempt to recount the controversy in detail nor resolve it once and for all. Both tasks have been taken up thoroughly by previous scholars. Rather than focus on the explorers’ acrimonious differences, I want to draw attention to the ethic of science they shared, expressed so cogently by Elsa Barker: that knowledge of the Arctic required human suffering. The historical specificity of this ethos can be made visible by considering the early years of American exploration of the Arctic.

At the time of Cook’s and Peary’s separate attempts to reach the North Pole in the winter of 1908–9, the drive for the pole was widely represented as one of the great efforts of western civilization. In the inimitable words of Peary, the pole was a “mystery which has engaged the best thought and interest of some of the best men of the most vigorous and enlightened nations of the world for more than three centuries.” While most late nineteenth- and early twentieth-century commentators also affirmed that reaching the pole was the “climax” of a centuries-old quest, others stretched civilization’s fascination with the pole even further into antiquity. For these writers, ambition to reach the pole had burned in the hearts of men since “the adventurous galley of Pytheas of Massila, about 330 B.C., first brought back tales of a frozen ocean in the North.” In this case, attainment of the pole was said to be the culmination of an ancient human desire.

In point of fact, the search for the geographic North Pole was a relatively recent obsession. During the many centuries that European explorers scoured the globe’s northern waters for expeditious passages to Asia, the pole itself
remained an item of little concern. It was, after all, a rather intangible goal. Reaching the northernmost end of the globe’s axis of rotation became an objective for explorers only in the early nineteenth century, augured by the polar quest that opens Mary Shelley’s classic 1816 novel, *Frankenstein*. Within two years of the creation of Shelley’s fictional Captain Walton, the sudden appearance of large quantities of floating ice off Greenland suggested to real mariners the prospect of open water at higher latitudes. Within a generation, the pole had replaced commercial passage as the great destiny of maritime men.

This new fascination with reaching the pole reflected a number of broader developments: the increasing importance of European nationalisms and naval competitiveness; the enhanced organization of geographical societies; intensified interest in ethnological, botanical, meteorological, and geological investigations in distant locations; changing Victorian conceptions of manly duty and honor; and the rise of imperialism. Britain launched the craze for polar exploration with expeditions commanded by Captain David Buchan and Captain John Ross in 1818. On the heels of these attempts, explorers from Canada, Scandinavia, Austria-Hungary, Italy, and Russia also headed for the imagined top of the world.

Americans entered this frenzied exploration only after 1850. The turning point in U.S. exploration of the north, as for the expansion of Arctic exploration more generally, was the loss of the British expedition led by Sir John Franklin. Franklin’s vessels, the *Erebus* and the *Terror*, were observed by two whaling ships just a few months after departing from England in May 1845; two long years then elapsed without any further contact with the expedition. In the decade following 1847, more than forty search parties from Britain and abroad scoured the Arctic in search of the missing ships and their passengers.

Partly through the efforts of Lady Franklin, who pleaded with the governments of all “civilized nations” to aid in the search for her husband, finding the expedition swelled with the sense of righteous purpose. Franklin and his crew were represented as the embodiments of manly virtue, and the effort to locate them became a “noble enterprise”:

> It is not merely scientific research and geographical discovery that are at present occupying the attention of the commanders of the vessels sent out; the lives of human beings are at stake, and above all, the lives of men who have nobly periled everything in the cause of national—nay, of universal progress and knowledge;—of men who have evinced on this and other expeditions the most dauntless bravery that men can evince.

This swelling sense of moral purpose, paired with an apparently sordid fascination with the fate of the individual men, at last spurred American explorers to join the international rescue mission. John M. Clayton, writing on behalf of the U.S. president, told Lady Franklin that the country would be happy to sup-
port the search, as “the name of John Franklin has been endeared by his heroic virtues, and the suffering and sacrifices which he has encountered for the benefit of mankind.” In 1850, the Advance and the Rescue, two ships provisioned for three years by the American merchant Henry Grinnell, departed for the north.

The intertwined refrains of noble motivation and terrible sacrifice that circulated in discussions of the Franklin search expeditions set the tone for a generation of American exploration in the Arctic. Even after explorers gave up the search for Franklin and assumed other aims in the Arctic, voyages were still framed as lofty Christian undertakings. America’s foremost Arctic explorers—Elisha Kent Kane, Frederick Schwatka, Isaac Hayes, and Charles Francis Hall (each of whom had each been initiated into Arctic exploration through the Franklin searches)—continued to stress both the grim suffering and pure aspirations of their work. Disdainful of commercial motives, men who strove toward the frozen pole were said to possess inspirations more “philanthropic” than “mercenary.” Obviously, the rhetoric of philanthropic selflessness obscured the expeditions’ ongoing interest in lucrative discoveries such as mineral deposits or whaling bays. Yet for this first generation of American polar explorers, the dominant tropes remained those articulated in the search for the missing Franklin expedition: pure devotion to a higher cause.

Explorers’ accounts of severe suffering and hardship in the Arctic intensified the rhetoric of pure devotion. Starvation, frostbite, scurvy, maddening loneliness, polar bears, falls through the ice—such were the myriad perils said to exist for polar travelers. According to popular narratives of exploration, men who were willing to explore the “dismal realms” of the far north shared one “great element of distinguishing greatness, of which the explorers of more genial and inviting climes were destitute. Their investigations were made entirely without the prospect of rich reward.” The nobility of polar exploration, in other words, emerged through the suffering it entailed. Richly illustrated, best-selling testimonies such as Kane’s The United States Grinnell Expedition in Search of Sir John Franklin (1854) and Arctic Explorations: The Second Grinnell Expedition in Search of Sir John Franklin in the Years 1853, ’54, ’55 (1856) taught the American reading public to associate Arctic exploration with loss, danger, and death. A willingness to undertake risk and hardship served to highlight the apparent selflessness and nobility of the endeavor.

Notably, the figure of science played little role in these popular accounts, despite the fact that the first generation of American expeditions included men trained in meteorology, ethnology, natural history, and astronomy. In the first three decades of U.S. exploration in the north, the few commentators who considered the relations between science and exploration portrayed both “science” and “men of science” as far removed from the frozen, sunless Arctic. The purity of Arctic exploration was rarely connected to the observation and recording of what commentators termed “natural phenomena.” To explorers, pure interests
in the north simply implied noncommercial motivations, not the investigation of nature.

Indeed, the physical hardships of Arctic work were generally said to obstruct investigations of nature. Being a man of science in the mid-nineteenth century implied the cultivation of self-renunciation, rigor, and studiousness—all traits coded as “manly” in the Victorian age. Yet this genteel view of investigation tended to emphasize mental and spiritual discipline, not physical endurance. Such moral, intellectual, and above all sedentary norms of inquiry could hardly be squared with contemporaneous norms of exploration: limbs shriveled from frostbite, eyes blinded by snow glare, and bellies distended from malnutrition. Science, defined at midcentury as a certain refinement of mind, seemed a far cry from the rotting whale meat and howling dogs populating Arctic narratives.

The perceived opposition between science and Arctic exploration is exemplified by the final expedition of Charles Francis Hall (born 1821), a Cincinnati newspaper publisher who, at the age of thirty-eight, sold his business to fund a trip to the pole. Although one of Hall’s central objectives was to investigate new bays suitable for whaling, he consistently represented his mission as sustained by noncommercial aims. He sprinkled his pre-travel journals with quiet pleas to God for the success of his northern quest, and in one 1870 letter to the Senate Committee on Foreign Relations he stressed that “neither glory nor money has caused me to devote my very life and soul to Arctic exploration” but a concern with the pole for its own sake. After Hall’s death at Thank God Harbor in 1871, his eulogists highlighted the intensity of his devotion. Colleagues recalled that “so thoroughly had he identified himself with his work, that his feelings in regard to it began to assume the form of a religious enthusiasm.” Hall trusted, “with the religious earnestness and faith of a sincere enthusiast, that he would finally reach the object of his devotion.”

While Hall emphasized the righteousness of his motives, he did not present the purity of his devotion as entailing a particular devotion to science. Certainly the voyage had what we now would consider a significant scientific component: the expedition dedicated three men (surgeon Emil Bessels, astronomer R.W.D. Bryan, and meteorologist Frederick Meyer) to the observation and investigation of natural phenomena. Moreover, when President Ulysses S. Grant signed a bill in 1870 providing money for the operation, he did so on the provision that investigations be performed on board the vessel “in accordance with the advice of the National Academy of Sciences.” Yet Hall never interpreted these details as reflective of the mission’s aim. Although individual investigators, such as Chief of Corps Bessels, might be praised for their “devot[ion] to science,” the endeavor as a whole was never presented as a scientific venture. Joseph Henry stressed this fact when delineating the academy’s instructions to Hall in 1871, stating gruffly that the expedition “is not of a scientific character.” In Henry’s view, the
aims and methods of polar exploration were antithetical to the aims and methods of science, for the simple fact that “men of the proper scientific acquirements” would hesitate to join “an enterprise which must necessarily be attended with much privation, and in which, in a measure, science must be subordinate.”

Men of science, Henry suggested, would be repelled by the prospect of spending several months in frozen darkness, thousands of miles from the nearest library. For Henry and his peers, the mental discipline known as science had little in common with the perilous world of Arctic exploration.

But the remarks of Joseph Henry, a man born in the eighteenth century, represented a dying vision. No longer was science conceived as a genteel manner of thought; it was now seen as an entity with its own intrinsic needs. Attending this entity was a new figure: the scientist. By the last quarter of the nineteenth century, Henry’s gentlemanly investigators had been supplanted by this new figure, the incarnation of emerging professional standards. The rise of the scientist, one outcome of the transnational transformation of inquiry occurring after midcentury, restructured both norms and practices of Arctic exploration.

Curiously, as the work of research was professionalized, both experimenters and theorists began to liken their work to the physically and emotionally taxing work of exploration. Exploration, in fact, became a metaphor for all scientific investigation. For physicist Henry Rowland, as we have seen, the figure of the virile explorer emblematized science as a whole: “pure science is the pioneer who must not hover about cities and civilized countries, but must strike into unknown forests, and climb the hitherto inaccessible mountains which lead to and command a view of the promised land.”

As Rowland and his university-based colleagues emphasized, to strike out into such inaccessible terrain required certain forms of endurance: an ability to suffer social isolation, financial impoverishment, even physical pain. Promoting the particularly difficult (and eminently fundable) nature of their project, professionalizing scientists borrowed the metaphors of geographical exploration. In the process, they incorporated themes of dirty toil and physical suffering long held to be antithetical to the work of gentlemanly natural philosophers. Once demarcated from exploration in the matter of privation and hardship, science slowly came to share an emphasis on messy, grueling labor.

While physicists, chemists, psychologists, and historians were coupling their work with exploration, explorers themselves were seeking to align their endeavors with the aims and methods of science. The efforts of German-born naval lieutenant Karl Weyprecht exemplify this shift. Returning from an 1872–74 North Pole expedition, Weyprecht chastised the Austrian Royal Geographical Society and Britain’s Royal Geographical Society for considering polar exploration “merely as a sort of international steeple-chase, which is primarily to confer honour upon this flag or the other.” In place of national boasts about minute gains in latitude, Weyprecht proposed collaboration among countries to
enhance the observation and investigation of natural phenomena. The poles, he insisted, must be considered resources for the contemplation of more general and encompassing laws of nature. To this end, competitive impulses for territorial acquisition must be subdued in favor of a coordinated search for facts “profoundly linked to phenomena close at home.”

Weyprecht explicated the principles of “scientific” polar exploration in a landmark 1875 paper, which insisted that geographical discovery in the Arctic has value “in as much as it prepares the way for scientific exploration as such” and that “for science the Geographical Pole does not have a greater value than any other point situated in high latitudes.” Such principles reframed the North Pole. No longer considered an independent object to be won and forgotten, the as-yet-unreached pole was now imagined as fundamentally linked to both the South Pole and to more temperate regions. Problems of meteorology, terrestrial magnetism, and astronomy, according to Weyprecht and his peers, were global in nature.

As the poles were integrated into more general scientific problems, so, too, were polar explorers incorporated into broader scientific communities.

Weyprecht’s critical intervention fell on receptive ears. In October 1879, an International Polar Conference gathered in Hamburg to discuss how to bring science more fully into exploration. Eleven nations ultimately pledged support for the construction of a set of circumpolar observation stations under the direction of an International Polar Commission headed by Georg von Neumayer, a geophysicist with connections to Alexander von Humboldt, Justus von Liebig, and other prominent investigators of the age. During the first year of this collaboration, the First International Polar Year (1882–83), fourteen stations were put into operation around Arctic Circle. All told, more than seven hundred men participated in the multinational effort—one of the monumental transnational organizations discussed in previous chapters. American officials, eager to elevate the nation’s status in such international affairs, ordered the construction of two stations: one at Point Barrow, Alaska, headed by Lieutenant P. Henry Ray, and one at Lady Franklin Bay, headed by Adolphus Washington Greely.

Thus, as professionalizing scientists advanced an association between science and exploration that emphasized suffering, they were met by explorers (who had long emphasized their own sacrifices) who were conscientiously striving to render their activities scientific. These two groups, in turn, were part of larger middle-class communities who newly assumed the violent costs of progress. Although middle-class Americans debated whether knowledge merited the expenditure of human life, they assumed a certain system of exchange: Arctic knowledge must be purchased with human blood. The assumption of this system of exchange—and its distance from the views of science and exploration evident in the case of Charles Francis Hall—is illustrated by popular responses to two expeditions of the early 1880s, one led by Lieutenant Greely, the other by George Washington De Long.
Thirty-five-year-old naval lieutenant De Long and his party set sail from San Francisco in 1879 on board the steamer Jeannette. Like other expeditions of the time, the De Long party included a surgeon, a navigator, a meteorologist, and a naturalist all instructed to collect specimens and record data. Less than two months after its departure from the States, however, the steamer and its team of scientists were caught in packed sea ice. The Jeannette spent nearly two years pinned in the ice before finally collapsing under the crushing pressure of the polar pack at about seventy-seven degrees north latitude. When the ship broke up on 11 June 1881, the expedition’s officers and crew scrambled onto surrounding ice floes with as many provisions as they could carry. Dividing into three smaller groups, the thirty-three men retreated for the coast of the Lena Delta in search of help. The parties were separated, and only one survived unharmed. In October 1881, the party led by De Long starved to death one by one.50

Although the popular press universally lamented the deaths of so many men, several commentators suggested that their lives had been bartered for something equally precious: new knowledge. When the journals of the doomed De Long were published in 1884, for instance, the editor of the two-volume series praised the expedition’s contribution to civilization:

The scientific results obtained were far less than had been aimed at, but were not insignificant. Something was added to the stock of the world’s knowledge; a slight gain was made in the solution of the Arctic problem.

Is it said that too high a price in the lives of men was paid for this knowledge? Not by such a cold calculation is human endeavor measured. Sacrifice is nobler than ease . . . and the world is richer by this gift of suffering.51

Foreshadowing chemist Edwin Emory Slosson’s 1895 remarks, the editor insisted that the relative value of life and knowledge cannot be settled by simple comparative accounting. Even if cold calculations do not determine the real value of Arctic work, the assumption of an underlying system of exchange is plain: the advancement of knowledge carries the price of human suffering.

Of course, middle-class Americans were not unanimously in favor of increasing knowledge through human sacrifice, no matter how willing the participants might be. As in other spheres, the comparative worth of knowledge and human life continued to draw persistent debate. Some of the most biting criticism of suffering for Arctic science came on the heels of the 1881–84 expedition led by Lieutenant Greely, one of the nation’s two contributions to the International Polar Year. Of the original twenty-three American men and two Eskimo men sent to the research station in Lady Franklin Bay, only six Americans survived; the others perished slowly from starvation, malnutrition, and exposure. (It is worth noting that the deaths of the expedition’s two Eskimo participants, Fred Christiansen and Jens Edward, were not included in the earliest reports of
the Greely disaster.)\textsuperscript{52} These half-dozen survivors returned to the States with more than two years’ worth of systematic records on meteorology, astronomy, magnetism, oceanography, and botany.\textsuperscript{53} Critics, however, were not assuaged by the resulting 1,300-page official scientific report. The \textit{Philadelphia Inquirer} condemned the expedition as “monstrous and murderous.”\textsuperscript{54} President Chester A. Arthur himself declared that “the scientific information secured . . . could not compensate for the loss of human life.”\textsuperscript{55} The \textit{New York Times} called for an end to the “folly” of such endeavors.\textsuperscript{56}

Yet even as critics cursed the barter of bodies for data, their words affirmed a new conception of the relationship between knowledge and sacrifice. Unlike the late Joseph Henry, commentators of the 1880s and 1890s assumed that suffering and polar science were fundamentally linked in that new knowledge must be paid for with the researcher’s pain. There remained significant disagreement as to whether the new facts were worth it—that is, whether lives had been wasted (the opinion proffered by most editorials). The terms of the debate, however, had already been set: to advance knowledge of the north, one must pay the price. The quiet, disciplined self-restraint lauded by Henry and his peers had been transformed into a vision of spectacular suffering. The explorer-scientist must be prepared to die for his calling.

The broad reconfiguration of relations among suffering, exploration, and science was carried forward by the valorization of an imperialistic white manhood. As both lay and professional commentators became fascinated with bloody suffering, polar exploration moved into position as the quintessential act of discovery, a metaphor for manly work as a whole. President Theodore Roosevelt, for example, praised the rigors of polar exploration as a corrective to threats of effeminacy and degeneracy. When presenting the Hubbard Medal of the National Geographical Society to Peary in December 1906, Roosevelt declared that it was “a relief” to

\begin{quote}
pay signal honor to a man who by his achievements makes it evident that in some of the race, at least, there has been no loss of hardy virtue. . . . We will do well to recollect that the very word virtue, in itself, originally signifies courage and hardihood. When the Roman spoke of virtue he meant that sum of qualities that we characterise as manliness.\textsuperscript{57}
\end{quote}

Virility, in other words, heralded virtuous morality. White men’s spectacular displays of hardihood, epitomized by Roosevelt’s famous charge up San Juan Hill, came to demonstrate their honesty and integrity.

The ongoing revision of science and racialized manhood is evident in the expeditions of Cook and Peary in 1908 and 1909. No longer were the quiet, careful, patient observations of gentleman investigators contrasted with the vigor and hardship of exploration. For Cook and Peary, the taking of observations themselves appeared to be grueling tests of physical endurance. Hands bloodied
from the wires used to take soundings of ocean depths; piercing headaches from staring too long into the light of the sun reflected in a sextant; feet frozen stiff while hiking to obtain a geological specimen: these and other images of self-punishment fill the narratives of Cook, Peary, and Peary’s scientific assistants.\textsuperscript{58} Donald MacMillan, one of five white men who joined Peary in the first (but not culminating) leg of his trek to the pole, recalled that they conducted their scientific work “religiously”: “lying on our breasts on the sea ice for hours, chipping, chipping ice from the freezng gauge at thirty or forty below zero . . . [taking] observations every fifteen minutes for six hours and later on every five minutes.”\textsuperscript{59} MacMillan later described the range of hardships endured in the course of their investigations: “bitter cold, cutting winds, blinding drift, treacherous thin ice, rough ice, pressure ridges, crevasses . . . frost-bitten face, fingers, feet, and starvation.”\textsuperscript{60} Cook offered a similar litany of hardships: “Privation, cold, hunger, peril of frostbite and of death, solitude, unceasing and sustained exertion.”\textsuperscript{61}

Yet these early twentieth-century explorers did not merely describe the physical severity of observations and calculations in the Arctic. They insisted on the necessity of such suffering to the advancement of knowledge. Defeating the unknown, they now said, required physical privation. One of Peary’s assistants announced that early advances in the north came only through “mistakes which entailed untold suffering and the loss of . . . lives.”\textsuperscript{62} The freezing of Peary’s feet, which led to the amputation of nearly all of his toes, allowed him to accentuate nature’s demand for just compensation, as evidenced by his exchange with Matthew Henson, an American who aided Peary on each of his expeditions north. When Henson looked at Peary’s twisted and mutilated feet and inquired: “My God, Lieutenant! Why didn’t you tell me your feet were frozen?” Peary allegedly replied, “There’s no time to pamper sick men on the trail. . . . Besides, a few toes aren’t much to give.”\textsuperscript{63} No longer did the work of science oppose privation; now science itself exacted its own cost; a “few toes” had become “a small price to pay.”\textsuperscript{64} The “true value” of these expenditures, some explorers stressed, could scarcely be appreciated by “the mind of the average man,” who “wants results, tangible results” for his expenditures. In contrast, exploration of the Arctic—“cubic feet of ice thousands of years old, desolate and barren beyond all imagination, [which] will never be used . . . as a productive field for anything to enrich the world in any way”—joined pure science in its utter disutility.\textsuperscript{65}

One could here interject that Peary and Cook played up their myriad hardships when addressing popular audiences. Certainly their data—logs of tidal variations, pages of latitudinal calculations, specimens of flora and fauna—bear little explicit reference to sacrifice.\textsuperscript{66} Yet it would be a mistake to overemphasize the distinction between science and its representations in this instance. To begin, there is no unmediated access to explorers’ raw experience at the pole: their most private documents were intended for public inspection and publication.\textsuperscript{67} At every turn, both explorers were aware of the historical significance of
their documents and composed their words accordingly. Peary, for example, filled entire notebooks with draft versions of the telegraphs he planned to send back from the Arctic.68 His assistant MacMillan was horrified when another scientist marred “six hours of painstaking work” by writing a rude remark in indelible pencil in a tidal logbook destined for the Coast and Geodetic Survey in Washington.69 Even the most mundane details were planned. One awards ceremony became an opportunity for instruction on this point; the National Geographic Society wrote to Peary, “Notify Amundsen & arrange with him when you present the medal to keep quiet, i.e not to move until flash goes off. Flash is planned to go off as you extend the medal & as A. extends his hand to receive it. Both keep still while this happens & don’t stand to [sic] close.”70 The representation of scientific work was a constant preoccupation of the explorers and their backers.

But more important, stressing a distinction between Peary’s and Cook’s rhetoric of suffering and their “real” scientific work would obscure the fact that the two were fundamentally related in the minds of the numerous experts brought in to determine the veracity of the explorers’ claims. Congressmen seeking to resolve the Arctic priority feud, for instance, cast aspersions on Peary’s evidence due to the astonishing cleanliness of his diary and record books. A real polar expedition would have been arduous, critics contended; and a reliable journal would testify to this exertion through grease, dirt, and visible wear.71 Lawyers debating the evidentiary status of Cook’s data noted that one might accept his controversial polar account on “the theory that a man having the hardihood to penetrate the Frozen North . . . is too much of a man to claim an honor to which he is not entitled.”72 In the minds of the diverse experts called in to evaluate Cook’s and Peary’s controversial claims, suffering and credible knowledge were inextricably linked. To prove the attainment of the pole, the explorer’s body and records must show the visible effects of the ordeal.

Experts called for such visceral testimony since no other simple method of proof appeared to be possible. Straightforward means of verification, such as observations of the position of the stars or photographs of the stars in the peculiar orbits visible at the tip of the earth’s axis, were unavailable. To avoid winter storms and take advantage of the best conditions for traveling over the semi-frozen polar ice, both Cook’s and Peary’s parties traveled in the spring, when the presence of the sun made celestial observations unfeasible. Nor could the explorers deposit cairns, flags, or other objects at the pole for verification by later expeditions. Although both left messages at their respective polar camps, the polar ice shifted continuously with the movement of the sea below, making subsequent verification by inspection impossible.73 Just as the explorers could leave no stable trace of their presence at the pole, the locale also offered nothing distinctive for them to bring back from its northern axis. Early twentieth-century commentators lamented the absence of polar “Indians” whose abduction from the pole might irrefutably establish an explorer’s contact.74
Photography proved equally problematic as a means of proving attainment of the pole, despite its status in other realms as a particularly veracious standard of evidence. Although they were picked apart angle by angle in popular and professional writings, the photographs that Cook and Peary brought back from the Arctic hardly solidified their claims for polar attainment. For example, one widely reproduced photograph of Cook’s igloo at the “North Pole” also appeared in a book by Cook’s one-time associate Rudolph Franke, with no reference to the igloo’s situation at the pole. The absence of elongated shadows caused by the low angle of the sun, which must have appeared if the photograph had been taken as Cook claimed, further distorted the photograph’s status as a mirror of actual events. The evidentiary status of Peary’s photographs was similarly in question.

Written records of polar observations—latitudinal sites, measurements of shadows, oceanic soundings, and so forth—proved to be equally fallible. While several of Cook’s and Peary’s respective observations and calculations revealed errors when scrutinized by experts, the possibility of mathematical error was not particularly troubling to those who were trying to bestow proper credit on the discoverer of the North Pole. (Peary even suggested that errors further vindicated the reliability of the data since “faked observations will lack the little imperfections which mark genuine observations . . . due to the fallibility of both the observer and his instrument.”) The failure of mathematical calculations to prove the truth of either Cook’s or Peary’s attainments was not simply a matter of error. Rather, the essential trouble with astronomical observations, according to early twentieth-century commentators, was that all of them could easily be forged after return from the pole. Records of shadows, adjusted tables of latitude gained from meridian altitudes of the sun, oceanic soundings, meteorological data—any of these data could be constructed according to readily available nautical almanacs and known principles of mathematics. Peary’s colleague MacMillan himself demonstrated the ease of falsification by working out, in full, a series of calculations of his position with respect to the pole. After all necessary corrections, his calculations would seem to place him at a latitude within 152 feet of the pole on 1 May 1928. Yet as he writes in his book, How Peary Reached the Pole, on that date he was in fact at Bowdoin Harbor, Labrador, more than 2,000 miles from ninety-degree latitude. As MacMillan concludes from this demonstration, an “astronomical observation for latitude is of the utmost value to the observer, as it proves to him that he has reached a certain spot, but it is of no value to the world, for it can be easily falsified.” Thus, problems with records of observations, like photographs, were not thought to reside in observational instruments or techniques themselves. Commentators attempting to sort out the Cook-Peary dispute rarely show concern about the variability of sensitive instruments such as barometers or chronometers but only with the fact that readings from instruments could be falsified at a distance. The underlying
problem was proving the integrity of the man behind the machine. Trusting the numbers found in the polar proof, as MacMillan’s jest makes clear, required trust in the sincerity of the man who had gathered and presented the data in the first place.

The sincerity of one’s fellows was a matter of growing concern at this historical moment. Historian Karen Halttunen argues that new apprehension concerning the deceits of “confidence men and painted women” attended the rapid urbanization, industrialization, and restructuring of middle-class family relations between 1820 and 1870. In the opening years of the twentieth century, this concern with sincerity persisted with a slightly different face. In place of the “confidence man” came the “fraud” or “faker,” a person who not only manipulated norms of trust to deceive his fellows but also forged evidence to substantiate his claims and persona. Regular stories of counterfeiting and quackery in popular periodicals and the establishment of boards of experts such as the American Medical Association’s Bureau of Investigation point to growing early twentieth-century concerns about deliberate deception and forged evidence.

In the context of wider concern about sincerity, forgery, and proof, suffering assumes novel importance: the explorer’s tortured body offered visceral testimony to having “been there.” Cook’s and Peary’s visible decay, the bodily evidence of their grueling ordeal, helped to obviate the need for other forms of proof. Palpable wounds assured myriad readers and observers “that the things had been done and done in the way claimed.” After his return from the pole in 1909, Peary immediately hit the popular lecture circuit, highlighting the amputation of his feet, the graying of his hair, and the weathering of his face as evidence of the suffering he had endured en route to the pole. His American assistants published further accounts of the suffering their commander had endured, lending further testimony to the veracity of Peary’s achievement. Peary and the five people who accompanied him on the final leg of the journey “were different men” when they returned to the Roosevelt, wrote MacMillan. “Their faces, their bodies, their loss of weight, showed plainly the tremendous strain under which they had been. One look was convincing. They had been a long, long way, and had worked hard and had suffered.”

As an engineer of Central American canals, a naval commander, and a friend of President Roosevelt, Peary often employed “convincing” suffering to better advantage than did the slim physician Cook. Yet Cook, too, filled his account of the pole with tales of suffering and sacrifice, of “the pain of fasting, all the anguish of weariness.” In his first interviews after his return from the north, for instance, he drew attention to the row of teeth he destroyed while gnawing on walrus hide. “The fact is,” he stated, “during the last stages of our return journey we were reduced to the very verge of starvation. On some occasions we had to go two and two and a half days without a bite of food. In that period of privation we succeeded in staving off death by famine by eating walrus hide.”
Offered as evidence of masticated walrus hide and hence of extreme starvation, broken teeth lent credibility to Cook’s claims. The visible evidence of the experience of physical hardship helped to assure the trustworthiness of the explorer and generate assent to his assertions.

Not all suffering, however, offered equal credence. As both Cook and Peary discovered after their return to the States, none of the men in their polar parties was endowed socially with the history of full self-possession necessary to qualify him as an impartial witness. On the final leg of his 1909 attempt at the pole, Peary had been accompanied by five men: his “Negro” assistant, Matthew Henson, and four Eskimos—Seegloo, Ooqueah, and the brothers Ootah and Eging-wah. Cook, traveling in 1908, had been joined by two Eskimo men: Etukeshuk and Ahwelah. The fact that neither Cook nor Peary had white companions to corroborate their claims worried even their most enthusiastic and sympathetic commentators. As the headline for one of the first reports of Peary’s attainment of the pole noted cautiously, “Peary Tells of Winning Pole: His Only Companions Four Eskimos and Hansen [sic], a Negro.”

In more critical evaluations of Cook’s and Peary’s assertions, the testimonies of Henson and the six Eskimo men were simply assumed to be unreliable. Critics brushed off the men’s ability to ascertain and record navigational position. Henson, for example, was peppered with insinuations about his literacy and mathematical ability, despite his declared love of Shakespeare and lengthy descriptions of positional calculations.

When Henson spoke in public about the expedition to the pole, Peary’s white backers instructed him to answer only a limited set of questions from his audiences to quell further speculations about his scientific qualifications.

Cook’s and Peary’s other assistants were also dismissed as competent witnesses. One editorial on the Cook-Peary controversy suggested that Cook’s two companions, “untutored Eskimos,” were “devoid of the scientific knowledge that would enable them to give intelligent and valuable testimony on such a subject as that under investigation. If they were at the Pole, or thought they were, it may have been only because Dr. Cook told them so, and therefore their testimony to the ultimate fact could not add much to his.”

Presumptions of illiteracy and lack of navigational skills were not the only aspersions cast on the testimonies of the seven men. Henson’s ability “to corroborate or contradict” Peary’s statements was dismissed by congressional representatives debating Peary’s retirement package because Peary had routinely described Henson as “as loyal and responsive to my will as the fingers of my right hand.” Similarly, critics argued that Eskimos were “peculiarly liable to the influence of parties of superior intelligence and craft.” The testimony of Etukeshuk and Ahwelah, one prominent legal journal asserted, “must be placed in the same category as the testimony of servants, which, when given in behalf of their masters, is deemed unreliable under another rule of law.” “Eskimo evidence is worthless,” agreed another expert. “The head of a scientific institute
might as well invoke the testimony of his servant in regard to any important experiment." As in the earlier California v. Hall decision regarding the reliability of Chinese witnesses, testimonial credibility presupposed full self-possession—the absence of servitude and obligation—and the civic participation it engendered. And as before, these positions were established fractionally and relationally, arranged as points on a continuum rather than as absolute or fixed oppositions: a white male assistant might be historically endowed with more self-possession than a black male assistant, but both held less credibility than the white male chief explorer. Deemed unreliable by their various locations in vestibular selfhood, Henson, Ootah, Egingwah, Seegloo, Ooqueah, Etukeshuk, and Ahwelah were barred from the most decisive sites of the controversy’s adjudication.

Just as the words of these seven men were considered unreliable, so, too, their physical trials took on a different significance. The same actions described to inspire white audiences’ confidence in the claims of Peary and Cook were treated as evidence of innate racial difference if enacted by Henson or the Eskimos. For example, while white men who endured cold and hunger in the relentless pursuit of Arctic knowledge were lauded for their advancement of knowledge, the Eskimos who took part in the expeditions of Peary and Cook were said to have joined the northern expeditions to “satisf[y] for a time their desire to roam afield, ever persistent in an Eskimo, by nature a nomad.” The Eskimos’ innate “inquisitiveness,” one of the most recurrent tropes of turn-of-the-century polar narratives, is found in the accounts of Cook, Peary, and Peary’s American assistants. In a passage that echoes the same litany of hardships (cold, exertion, exposure to the elements) used to extol the white American man’s sacrifice for science, we now read of one unnamed Eskimo woman’s childlike curiosity about the white men’s “strange treasures”:

The . . . Eskimo woman . . . had subjected herself to a temperature of thirty-five degrees below zero, with the liability to be caught in a gale; she had travelled forty miles over a track the roughness of which frequently compelled her to dismount from the sledge and walk; she had carried her child all the way; her sole motive being her curiosity to see the white men, their igloo (hut), and strange treasures.

This woman’s endurance of hardship and danger does not demonstrate her sense of higher purpose—a gallant patriotism or a selfless quest for new scientific knowledge. Instead, her travels indicate her people’s “childlike” wonder; her physical stamina buttresses the white assumption of native robustness.

Whatever pain Matthew Henson might have endured was similarly erased from both popular and professional accounts of the expedition, despite the fact that Henson was the American party’s only fluent speaker of Inuktituk, its best dog driver, and arguably the most crucial member of the team. Henson’s blistered feet and frozen face were rarely portrayed as evidence of voluntary and
heroic suffering but were offered as further testimony of the natural endurance of nonwhite peoples. Peary captured this perspective in one of his best-selling polar narratives, declaring that, like the Eskimo, “negroes . . . are indefatigable.” When Peary and Henson returned to the States from their historic expedition, the symbolic distinction between the white man’s “noble suffering” and the black man’s “innate endurance” was made manifest in specific material inequities: for instance, Peary drew more than $1,000 per public appearance after their return, while Henson struggled to find a job as a mail clerk earning $2,400 per year.

The explorers’ wives were also excluded from the realm of sacrifice for science, albeit in a manner quite unlike the situations of Henson or the Smith Sound Eskimos. The safety and domesticity of the two wives’ quiet lives were continuously set in opposition to the perilous work of the manly explorer. Although Marie Fidell Hunt Cook and Josephine Diebitsch Peary had both traveled with their husbands on earlier expeditions—and Peary had even given birth on one expedition—their activities were generally described as wifely endurance. Josephine Peary’s own published Arctic narrative features peaceful scenes of cooking, sewing, and waiting for news of her husband interspersed with encounters with polar bears, fatigue, and Eskimo “children of nature.” Whether keeping the home fires burning in the States or tending domestic affairs in the far north, the comfortable activities of middle-class white women provided a constitutive counterpart to their husband’s spectacular exertions. Arctic narratives, both their own and those of their husbands, tended to contrast their peaceful domestic lives with the exertion and danger of manly scientific work.

Evident, then, is a familiar paradox: the voluntary endurance of physical suffering demonstrated the veracity of Cook’s and Peary’s claims to having reached the pole, while the voluntary endurance of physical suffering also demonstrated the racial inferiority of Negroes and Eskimos. Suffering was at once one of the benefits of scientific work (for, like imperialist war, it restored men to their healthy, virile selves) and one of the things to be obliterated by scientific work (for civilization was partly defined as the superseding of physical toil). Heralded as the means to noble manhood through strenuous activity, science was also promoted as the means to evolving beyond unnecessary physicality.

Indeed, even while Peary’s invocation of suffering helped support his claims to have discovered the Pole, he and his allies claimed the conquest of suffering as his trademark. In numerous discussions of the “Peary System” of Arctic work, a plan of movement and preparation explicitly likened to Frederick Winslow Taylor’s “scientific management” of the industrial workplace, Peary emphasized his triumph over the toil and misery of less rational men. Amounting to a manner of organizing men, dogs, and equipment, the Peary System was said to distinguish the success of this journey from the hundreds of previous painful, failed expeditions to the pole. The lack of scientific planning on
expeditions such as Sir John Franklin’s had resulted in “untold suffering.” The organization and rationality of Peary’s plan, in contrast, was said to engineer former hardships out of existence. This depiction of science as a triumph over pain rides alongside its depiction as necessitating pain; again, we see the characteristic ambivalence of these modes of subjection.

MacMillan’s best-selling narrative of the 1908–9 journey reproduces this tension. Throughout his book, MacMillan elevates the conventional Arctic tropes of hunger, frostbite, darkness, extreme physical exertion, and emotional exhaustion. “There is no denying the fact that the white men suffered,” he wrote:

As one said, “A hell all right!” All were frostbitten. There were black patches on every face. The rims of our ears were black, where in desperation we had shoved back our hoods to cool our sweating heads and necks. A dull pain across the forehead generally brought us to our senses and caused us to cover up. The tips of our fingers and toes were horny, cracked, and bleeding.

Shortly after this description of physical mutilation, however, MacMillan expressed his hesitation at presenting such spectacles of pain. “It is with reluctance that I include personal suffering in this narrative,” he wrote. “It should be endured and nothing said.”

MacMillan here struggled with conflicting ethics of manliness. Both versions valued the endurance of hardship; the difference was found in communicating that hardship to others.

Warring norms of suffering manhood, not surprisingly, also informed Cook’s and Peary’s claims to polar discovery. This ambivalence is most apparent in the figure of Cook. Before meeting the press after his return, he trimmed his long, bedraggled hair; scrubbed his dirty and weathered skin to give it a “civilized” sheen; and polished his pemmican-stained teeth. The roughness of polar exploration, valued by Roosevelt as its salient virtue, was tempered by the accoutrements of urbane civilization. Cook’s estimation of the importance of a civilized appearance did not go unappreciated. In popular discussions of the polar controversy, Dr. Cook’s poses of civilized reserve often increased his appeal, his self-restraint appearing more Christian and charitable than the boasts and threats of the domineering Peary. In newspapers, Cook was often fashioned as the mature and calm negotiator in a civil dispute, as contrasted with a loud and blustering Peary. The front page of the Washington, D.C., Evening Star, for instance, carried two articles on the polar controversy on 7 September 1909. An article appearing in column 3, “Peary Ready to Dispute Cook’s Claim to be First to Discover North Pole,” describes the belligerent Peary’s readiness to defend his claim by any means necessary, while an article in column 1, “Cook Wants No Row,” presents Cook as gracious and accommodating: “By going much farther to the east than I did,” Cook is quoted as saying, “Commander Peary has cut out of the unknown an enormous space which,
of course, will be vastly useful and scientifically interesting." Such modesty drew praise. A woman from South Hamilton, Massachusetts, wrote to the explorer to commend his reserve: “Your reticence of speech, your kindly spirit toward a seemingly unreasonable rival, commend themselves to your admiring countrymen. It is a sign of true nobility.”

Peary’s boastfulness, on the other hand, often drew public rebuke. Even his closest allies recalled that Peary appeared to some to be a “tyrant,” a “martinet,” or an “autocrat.” Peary backers anxiously sought to justify his abrasiveness, explaining that Cook’s offensive violation of truth excused Peary’s lack of “drawing-room courtesies.” In other quarters, the spectacle of voluntary suffering provoked amusement rather than rebuke. One poet, taking an entirely different tack from Elsa Barker’s heroic tribute to the links between violence and knowledge, poked fun at the ways in which Arctic suffering was used to shore up the explorer’s claims to reliable knowledge. The spoof, titled “Rime of the Modern Mariner,” concludes:

“Is’s awful and it makes you swear,”
The Mariner began,
“With hunger, hunger everywhere—
And only pemmican.”

A tear gleamed in his honest eye:
“Beneath those arctic roofs
I thought for hunger I should die—
And so, I ate my proofs!”

Thus, while sacrifice was coming to be taken as a sign of the white man’s moral and scientific integrity, it also provoked guffaws and condemnation. The American public, like Peary and Cook, struggled to accommodate conflicting norms of science, manliness, and suffering.

In short, during the first generation of American exploration in the far north, the grueling physical sacrifice of Arctic work and the cerebral world of natural philosophy were usually opposed. Through the professionalization of American research, the rise of novel international standards of Arctic investigation, and changes in middle-class American values more broadly, science and exploration were reimagined as sharing an essential relationship to heroic suffering. Gaining new knowledge of the Arctic, it was said, required privation and hardship. While the association of science with suffering owed much to the rhetoric of militarism (one Arctic narrative notes that discovery, like war, leaves a field “sown with graves”), the influence worked in both directions. Even as Arctic explorers compared their work to war, warriors began to compare their work to the perils of polar exploration, as Erich Maria Remarque testifies in his memoir of the Great War. 
Whereas some voluntary suffering in the Arctic was portrayed as gallant, heroic, and eminently civilized, other, similar actions were said to reveal innate robustness or childlike inquisitiveness. Only the former—the suffering of white men—could be used to establish the integrity of an explorer’s scientific evidence. For these men, the experience of absolute north, like the experience of divine presence, was marked directly on the body. Even for them, however, the spectacular demonstration of suffering provoked some ambivalence. While the display of physical hardihood conformed to emerging norms of proper manly behavior, it also conflicted with whites’ existing understandings of racial hierarchy (which suggested that the white man must use his civilized mind to avoid spectacular physical hardships). As the chapters 5 and 6 reveal, the ambivalent meanings of manhood, civilization, and science troubled investigators outside the Arctic as well, provoking varied responses in different locations.