

## The Holders of the Dry Tortugas

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The Holder family arrived in Key West aboard the Havana-bound steamship ship *Isabel* in January 1859. The journey from their home in Massachusetts, through New York, Washington, Virginia, the Carolinas, and finally to Key West was long and tiresome.<sup>1</sup> Trains had proceeded through the South at a leisurely pace that proved a bit frustrating to the New Englanders. Their ship from Charleston to Key West was more direct; but their keen anticipation of visiting in Key West was cut short when upon disembarking at the wharf, the family was hurried onto the mail schooner that had been held in port waiting for their arrival, immediately setting out on an overnight sail to their intended ultimate destination, the Dry Tortugas.

### The Holders

The Holder family consisted of Dr. Joseph Basset Holder, his wife Emily Gove Holder, and their son Charles Frederick Holder. Dr. Holder was on his way to become physician to the US Army engineers who were responsible for building Fort Jefferson on the Dry Tortugas. He was also a recognized naturalist. The Holders apparently had not done much in the way of accommodating for the life they were about to experience. They had been thinking along the lines of boarding at a civilized hotel for the winter of their intended one year stay. Instead, the next morning after arriving in Key West they found themselves sixty miles farther west on a small isolated island within a huge unfinished Army fort and unfurnished quarters. Joseph settled in and was so pleased with his naturalist experiences that their one year turned into two; and then, unplanned, the Civil War turned their two years into nearly seven. They departed in 1867.

All three Holders published on their times at the fort. Joseph's first article appeared in 1868, soon after leaving the fort, followed by a more extensive series in 1871. He wrote entertainingly of his biol-

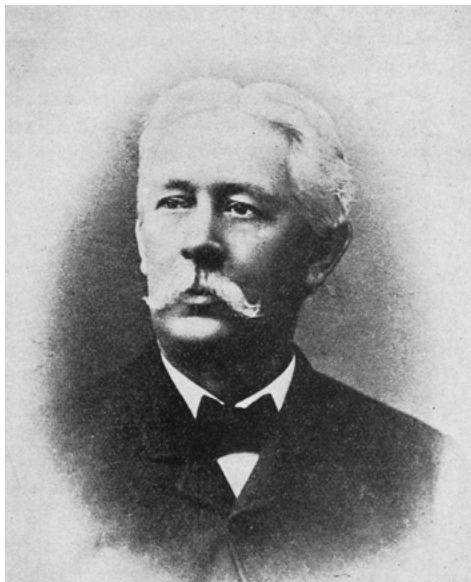


Fort Jefferson on Garden Key in the Dry Tortugas, Courtesy of Kirsten N. Hines.

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ogy observations, his medical work, and of memorable characters he encountered. Charles' and Emily's literary contributions came much later, in 1892. Charles wrote thinly-veiled fiction about his experiences there as a child, recapitulating his time spent with his father exploring the Tortugas waters. Emily's articles told of people and events and provided her discerning perspectives on life at Fort Jefferson during the war.

Although news from the fort was understandably constrained for security reasons during the war and its time as a military prison, a few articles by former soldiers were published more-or-less contemporaneously in magazines.<sup>2</sup> Some letters and other information from prisoners at the fort also saw publication, particularly those originating from the most famous of them, civilian prisoners found guilty of conspiracies against the state including the surviving Lincoln conspirators who arrived at the fort in 1865, overlapping the Holders by a couple of years. It was after the war had long passed that more became known of this increasingly prominent period in the fort's history. As the fort's fame and infa-



Dr. Joseph Holder. Library of Congress.

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my increased, public demand for accounts of Fort Jefferson also increased. Alumni veterans contributed, while the former civilian prisoners wrote and gave interviews supporting their innocence and continuing their complaints about their poor treatment. Even later letters and diaries of soldiers found their way into archives. Not being written for sensational public consumption, these provide crucial and less biased background from their point of view.

But the Holders were neither regular Army nor prisoners; instead, they were a family, and their points of view could not be more different from those offered by prisoners and soldiers. By the time of Joseph's initial writing, the situation at the fort had turned decidedly worse as it felt the grips of its persistently famous yellow fever epidemic, the fame of which Samuel Mudd and his descendants kept alive through their writings. And by the time of Charles' account of his adventuresome childhood on the Dry Tortugas and Emily's thoughtful story of her life at the fort, appearing over twenty years after Joseph's, the fort had long since acquired its war-time reputation as America's Devil Island,

a place of pestilence, abuse, miscarried justice, miserable climate, and widespread hopelessness. The point of view of its being a heinous prison of tortured innocents remains prominent within the tales of Fort Jefferson. But that was not the Holders' experience.

Joseph Bassett Holder was 35 years old when he brought his family to the Dry Tortugas.<sup>3</sup> He was born in 1824 in Lynn, Massachusetts. Both the Holders and Bassetts were historically important American-Quaker families. Joseph's ancestor Christopher Holder, a wealthy Englishman and a persecuted early convert to Quakerism, brought the faith to America as a missionary in 1656 organizing America's first Society of Friends. His fourth great-grandfather was the first large shipbuilder in America; his father was a prominent druggist in Lynn.<sup>4</sup> Joseph was precociously engaged in natural history, founding the Lynn Natural History Society, collecting and studying plants and birds, which became the subject of his first publication.<sup>5</sup> While still a youth, he met and forged lasting friendships with such natural history luminaries as Spenser F. Baird, Louis Agassiz and William Stimpson. Well established in the New England Quaker and natural history communities, he studied at the Friend's School in Providence, Rhode Island, moving on to a medical degree at Harvard where he continued to enjoy the mentorship of Agassiz as well as other prominent men of science such as his medical professor Oliver Wendell Holmes, Sr. Returning to Massachusetts, he practiced medicine and continued his natural history pursuits. Holder's interests and skills in both medicine and natural history and his professional and family connections are what brought him and his family to the Dry Tortugas.

After his service in the Tortugas, Joseph Holder transferred to Fortress Munroe in Virginia and in 1870 resigned his Army commission and joined fellow Agassiz mentee Albert S. Bickmore in establishing the American Museum of Natural History in New York City, which opened in 1869. There he took on central roles in building the museum first as assistant superintendent and then as curator of invertebrates.<sup>6</sup> Holder settled in New York City as a writer and lecturer.<sup>7</sup> His initial articles, 64 pages worth, were published in the highly respected *New Harper's Magazine*, reaching

a wide public audience, no doubt his intention. Although written in a popular style, these became and remained the most complete studies of South Florida's marine life for decades. He also shared ancillary human stories of the fort during its time as a prison. His cartoon illustrations for the articles, such as "The Conch" and "A Wrecker of the Reef," are frequently re-published to this day, usually without attribution.

Post Tortugas, Holder undertook studies for the New York Aquarium, wrote textbooks and popular books and other articles, lectured, and taught. He continued his productive scientific engagement throughout his life. His professional persistence is well illustrated by his paper on the soaring of birds, based on observations he had made in the Dry Tortugas 20 years before, published in the same issue of the *Transactions of the New York Academy of Sciences* that also carried his obituary.<sup>8</sup>

Religious and anti-Darwinian to the core, his creationist views did not well stand the test of time in the pro-Darwinian world of American science. Natural selection aside, he did admire Charles Darwin's field observations and corresponded with him on his bird flight paper.<sup>9</sup> Holder was deeply respected in the scientific community, especially for his role as a popularizer of science and was known, too, for his kindness and mentorship of young scientists. He was a founder and fellow of the American Ornithologists' Union, fellow of the New York Academy of Sciences, and elected to other distinguished societies. He passed away in New York in 1888. His Academy of Sciences memorial ends "... of his career it can be said by those who knew him best, that few have lived a life of such absolute purity and uprightness, both in thought and action."<sup>10</sup>

Emily Augusta Gove was born in 1829 in Weare, New Hampshire, and like Joseph was from a pioneer Quaker family.<sup>11</sup> She and Joseph married in 1849. Charles arrived two years later. Emily's time at the fort was spent in support of her family in the trying isolation of the Dry Tortugas through the Civil War.<sup>12</sup> Her careful observations and sage commentaries reveal that she was a learned, discerning and kind person fully participating in the rather unique experience of a

war-time fort-prison isolated on an island stuck out in the Gulf of Mexico. After Joseph's death she moved to California with Charles. Her memoir, now readily available on-line, has brought her belated appreciation as one of the singular pioneer women of Florida. She passed away in 1913 at the age of 83.

Charles was born in 1851 and essentially grew up at Fort Jefferson, living there from ages ten to seventeen.<sup>13</sup> He then caught up with his formal education through tutors and at preparatory school, gaining an appointment to the Naval Academy. He did not continue but rather in 1871 took a position as assistant curator at the American Museum of Natural History rejoining his father in their natural history pursuits. He married Sarah Elizabeth Ufford Holder of Brooklyn in 1879. For his health, he spent much of his life in Southern California, moving to Pasadena in 1885 where he flourished, becoming a well-known and respected outdoorsman, writer, publisher, and conservationist as well as a businessman, civic leader, and philanthropist. In his writings he followed his father's lead in proselytizing the glories of the World's animate life. He pioneered offshore big game fishing being credited with landing the first large tuna using a rod and reel, founding the Tuna Club located on Santa Catalina Island, and becoming considered as one of the founders of saltwater sport fishing. He also was a co-founder of the Tournament of Roses and other local organizations and a member of many more. Prolific to the extreme, he wrote and had published over 40 books and hundreds of magazine articles.<sup>14</sup> Joseph mentions Young Charley as his companion and deep-diving assistant in his investigations on the Dry Tortugas and Charles used these experiences to write his young adult novel.<sup>15</sup> Charles Holder died in 1915, two years after his mother.

### **Dr. Holder the Physician**

At Fort Jefferson, Joseph Holder's most critical job was that of physician to the Army engineers and their workers. The previous Army surgeon had been Daniel Winchester Whitehurst who left his post in 1861. Whitehurst was a prominent southern physician, a lawyer, a newspaper publisher in St. Augustine in the 1830's,

and advocate for the American Colonization Society dedicated to resettling freed slaves to Africa. His wife Henrietta's father, Dr. Frederick Weedon, was a similarly prominent Florida physician, a St. Lucy area pioneer, St. Augustine mayor, Seminole War veteran, and naval surgeon who settled in Key West.<sup>16</sup> He was an attending physician to Seminole war chief Osceola while he was in prison, securing many of his artifacts including his head, which later passed to Whitehurst.<sup>17</sup> Dr. Weedon had died at Fort Jefferson while staying with the Whitehursts in 1859. Holder was Whitehurst's successor as engineer physician. In 1867, with the onset of a yellow fever epidemic that erupted (not coincidentally) soon after Joseph Holder's departure, Whitehurst, who was by then 60 years old and a prominent Key West resident, was persuaded to return to the fort. There Whitehurst without publicity brought the epidemic, which had begun in mid-August, to an end by mid-November with a modest 38 dead out of a population of about 300.

As physician-in-charge at the fort during the pre-war period, Dr. Joseph Holder reported to the Army engineers and was responsible for the engineers themselves, their families, and their workers, including a seasonal succession of craftsmen and laborers from the north, mostly recent European immigrants.<sup>18</sup> It also included slaves that the Engineers rented from their owners, primarily from Key West.<sup>19</sup> When regular army soldiers arrived to take control of the fort in anticipation of the Civil War, they brought their own physicians for their soldiers and eventually for their prisoners, nearly all of whom were soldiers before their trial by a courts marshal or military commissions. During the war Holder's commission expanded to include the regular Army staff. Holder initially worked from a hospital located outside the fort's walls where, as Emily puts it, it was always cool and breezy unlike the sweltering fort interior. Later, during the war, he also would have responsibility for the regular Army garrison and for hospital quarters within the fort.

As the fort's doctor, one of Dr. Holder's most telling interventions was to engage the issue of food quality. The fort was isolated and



food supplies were tenuously dependent on the arrival of transport ships. Those sent by the military were initially regularly scheduled from Key West, New Orleans, and Pensacola but supplies were frequently interrupted by the war as contracts were abandoned, quarantines prevailed in supply ports, and higher military priorities were attended to. The terrible quality of the food available was remarked upon in nearly every account from that time, a difficulty faced by all at the fort irrespective of rank or situation. The most common complaint in letters was that flour beetles infested the bread that also was so hard as to be nearly inedible. The bread and beetles were mostly just eaten anyway. Contrarily, Samuel Mudd, who complained about nearly everything, declared the bread to be “usually very good.”<sup>20</sup> In addition to bread, rations for most of the population of the fort included poorly made coffee and canned foods. More comprehensively, Mudd states that his own diet, which avoided all meat, included bread, coffee, molasses, butter, canned tomatoes, and beans. Of course, his experiences took place after the war, when supplies were no longer being so interrupted.

The lack of fresh fruit and vegetables was a major health issue, one apparently unappreciated by the Army, although long known to the Navy and other mariners. At one point when the regimental doctor had taken ill, Emily writes that Dr. Holder took over care of the prisoners to find that over 200 had scurvy and some were near death because of it. Unlike the regular Army doctor, Holder recognized the symptoms and was familiar with treatment and preventative measures. Holder sent away for limes and procured vegetables that began alleviating the condition. Given limited supplies, he also set out to find something locally that might provide similar benefits. He discovered his remedy in sea purslane (which Emily in her writing and others at the fort called parsley). Holder had it harvested from nearby islands, cooked up as a green, and served with vinegar. The changes in diet proved medically successful. In his writings, Joseph states that his purslane greens were well appreciated by the soldiers; other documentation suggests that the recipients thought them awful.<sup>21</sup>

It was Holder’s concern about scurvy that led to his most inno-



vative non-medical undertaking: the creation of a theater, with the admission charge directed toward buying limes, vegetables, and other such healthful provisions. The call for participants led to selection of a troop of prisoners and soldiers, which began as a minstrel show, becoming more accomplished as time went on. Holder was its hands-on director. His assistants took the money and handled the set. Initially, the regimental band provided the music. Emily felt that the theater's psychological benefits may have exceeded its medical, and in fact the relief of boredom brought on by too many prisoners with too little to do was one of Dr. Holder's goals in establishing his "little Théâtre de Hôpital."<sup>22</sup>

Other diseases also afflicted the fort's population. As Emily explains, bad conditions came and went. Disease was worse in the stifling heat and damp of summer but were alleviated in winter, particularly during the biweekly passing of cold fronts. The summer through fall rainy season brought out mosquitoes that could breed in the fort's many uncapped cisterns and other small pools of water; but it would be decades before it was appreciated that these mosquitoes were more than nuisances and could carry diseases. When things were bad, they could be very bad. Emily reports a time when nearly the entire fort population was sick, including her family. The situation became more difficult as the fort became overcrowded with prisoners and soldiers. It should not be surprising that illness and death were part of the fabric of life at the fort. But it might be appreciated that the health situation at the fort was fundamentally no different than that in other Civil War prisons and, more broadly, in other 19th century southern towns.

Some of the diseases were highly contagious. Measles was one of the epidemic diseases that periodically appeared at the fort. Like the case for scurvy, Holder detected its presence in soldiers after it had been overlooked by other doctors. Another disease that afflicted the fort was dengue fever. Then known as break-bone fever in some of its forms, its pain and debilitation were generally considered a fate worse than death, although it was seldom fatal to healthy people and ran its course in a few days. It occurred ep-

idemically several times during Joseph Holder's tour as physician at the fort.

Yellow fever did not occur at the fort during Holder's ministry. Yellow fever is carried by the same mosquito that transmits dengue fever, so the vector was present throughout Dr. Holder's stay. And the disease was nearby ready to jump to the fort from its main servicing ports, being annually rampant in nearby Havana and in some years in Key West and also regularly in other southern ports. In Key West, a particularly virulent strain killed many thought to have been resistant because of their previous exposure to the disease.

The reason yellow fever did not turn up at the fort was because Holder, as the fort's public health officer, enforced stringent protective protocols. He rowed out to meet each arriving vessel, inspected, and made the decision on whether it could land and what quarantine measures were to be taken. Holder writes later that he found yellow fever to be readily controllable at Fort Jefferson through enforcement of strict quarantine measures, a policy proven by his success in preventing the disease from reaching Fort Jefferson contrasted with the epidemic that ensued right after his departure. Left unsaid by the uncritical Holder was that his successor did not continue those protocols, which resulted in one of the most persistently famous yellow fever outbreaks in American history, one that claimed his successor's own life.

Other diseases that occurred at the fort are less recognizable and in fact were not definitively characterized at the time, other than by their overlapping symptoms. Soldiers and prisoners were often afflicted with fever and diarrhea. The causes were undoubtedly linked to the difficult conditions for food storage and preparation and to poor sanitation conditions.<sup>23</sup>

The sewage disposal system was a major environmental health issue at the fort, which was well recognized at the time, but misunderstood. As had been done for centuries in fortifications, interior latrines drained into the moat. The system was not fully in place

at the start of the troop build-up and in any case suffered from leakage as the fort settled and it clogged up.<sup>24</sup> Enlisted men's and workers' latrines were right over the moat. The fort's design was such that the moat would be filled with sea water at high tide and released at low to drain its accumulated effluent.<sup>25</sup> It did not work.

As the population of the fort soared, the moat became a stinking cesspool. Breezes swirled around the fort walls and brought the stench to all its corners. No doubt exposure to human waste led to dysentery-type diseases, the causes being unappreciated in that the germ theory of disease was well in the future. The moat's offense was evaluated within the context of the predominant medical theory of the day that diseases were caused by miasmas emanating from stagnant waters, especially at night. Thus the moat was feared and during disease episodes much effort was expended in trying to arrest the spread of the vapors into the fort by blocking air passages.

Holder and the regular Army surgeons at the fort were responsible for treating these diseases. Measles, yellow fever, and dengue fever are viral diseases that were essentially incurable by medication once caught, efficacious medical practice being palliative including alleviating the symptoms as best as possible and supporting the patient's own bodily defenses. After Holder departed and the yellow fever epidemic of 1867 followed, Dr. Whitehurst and other doctors treated patients with opium, mercury, nitric acid, purging, heating, sweating and denying water and ice.<sup>26</sup> All of which likely did not do much to improve the patients' symptoms.

Survival of individuals probably was in large part a matter of their previous health, which in the confines of an overpopulated prison-fort was tenuous for many. As Emily describes Joseph's practice beyond diet, it was based on making patients comfortable by treating symptoms, usually chemically but also by comforting the patients mentally. Joseph Holder writes about his view of the role of medical counseling, summarizing his view that the best medicine at the fort would have been accomplished by assigning clergy to counsel the men.<sup>27</sup>



Dr. Samuel Mudd. National Library of Medicine.

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Holder himself took on responsibility for individual prisoners, some of whom were seen by authorities to be incorrigible, postulating that trust and care could be more useful than harsh discipline. His greatest test case likely was that of George St. Leger Grenfell who obstinately refused to bow to prison discipline. Grenfell at the time was as famous as his fellow-prisoners, the Lincoln conspirators.<sup>28</sup> In fact, as a British citizen from a prominent family, his case drew international attention. Holder took Grenfell on as a nursing assistant and dispensary clerk in the hospital, in which role he served well; and during the yellow fever epidemic Grenfell continued to assist Dr. Whitehurst performing in the same services, as did Samuel Mudd who famously was pardoned for his work. Holder had previously given the dispensary position to Mudd on his arrival at the fort.<sup>29</sup> At one point, when Holder was absent from the hospital, Mudd administered the wrong medication putting the patients at considerable risk. Although Holder argued to the authorities that Mudd's actions were accidental rather than attempted murder, as they believed, Holder dismissed Mudd from working in the hospital. Another story

of Holder's mentorship is that of the prisoner called Fat Charlie, which is shared below.

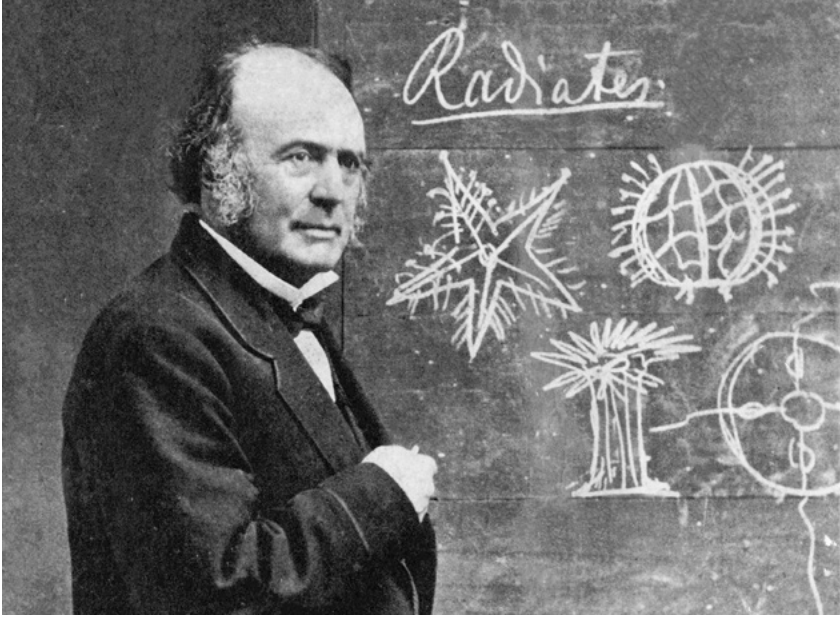
Holder in his practice also took a sympathetic approach to alleviating onerous impacts of military and prison routine. The prisoners were often weak and ill and soldiers not only took sick but were often incapacitated by such drills as being marched around the parade ground under the mid-day tropical sun in full woolen uniforms. Holder provided excuses to keep weak or sick men from work, although his excusals often were overridden by the Army officers. Many of the imprisoned soldiers had been convicted unfairly, and Dr. Holder took up their causes with the authorities, with some success.

Holder's view on the value of general physical health is reflected in his recognition of the importance of nutrition, decades before the Progressive era's health movements, characterization of vitamins, or appreciation of the germ theory of disease.<sup>30</sup> Similarly, Holder's view on the value of mental health in medical treatment, counseling, and empathetic engagement was perhaps even more ahead of its time, likely influenced by the Quaker-promoted theories of moral treatment of mental health issues.<sup>31</sup> The progressiveness of Dr. Holder's approach to his medical practice at the fort, including quarantine, diet and mental health, must be considered impressive.

### **Dr. Holder the Naturalist**

The large population, increased responsibility for regular Army personnel, limited supplies, poor food and sanitation, illness, and his role as comforter-in-chief were certainly time-consuming responsibilities for anyone, Dr. Joseph Holder included; but, really, he was at the Dry Tortugas, instead of tending to his successful medical practice back home in Massachusetts, to pursue his naturalist calling.

Anticipating Dr. Whitehurst's first departure from the fort, Louis Agassiz and Spencer F. Baird of the Smithsonian set in motion



Louis Agassiz. New York Public Library.

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a plan for the appointment of a replacement physician who was also to be a naturalist, a position designed for their young friend and colleague Joseph Holder. Joseph Totten, Chief of the Army Engineers, was persuaded. Although reporting to the military commanders of the fort, his work as a naturalist would have been assured by the support of the pillars of America's scientific establishment. Louis Agassiz was the most celebrated naturalist in America; Spencer Baird was the head of the national museum; Joseph Totten ran the Army engineers and had co-designed and was building Fort Jefferson. The fourth important personage in the story, Alexander Dallas Bache, was Benjamin Franklin's great grandson and chief of the US Coast Survey. Together they were among the most politically powerful scientists of the pre-war era, and together they were defining the course of American science. The naturalist portion of Holder's assignment was in good hands.

Holder's Harvard friend and mentor Louis Agassiz, of course, was key to his appointment. Agassiz had inventoried Florida's cor-



Joseph Holder on a collection trip in the Dry Tortugas. Otto G. Richter Library, University of Miami.

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al reef in 1851 at the request and with the support of Alexander Bache. He was only the second naturalist to study the Dry Tortugas, the first being John James Audubon in 1832, whose expedition put the islands on the world naturalist map.<sup>32</sup> Whereas Audubon concentrated on the birds, Agassiz studied the reef's biology and geology while Bache's crews mapped the reef and the Florida Keys. Agassiz's charge was not only to scientifically survey the reef but to determine if it was alive and growing or otherwise could be tamed.<sup>33</sup> During his survey, Agassiz had arrived at Dry Tortugas in company with Engineer chief Totten himself.<sup>34</sup> Agassiz's persistent interest in the biology and geology of Tortuga's reefs led both to Joseph Holder's appointment and later to Louis' son and



successor Alexander Agassiz, pursuing his reef work there. Due to Agassiz's influence, Holder became the third naturalist to study the Dry Tortugas, after Audubon and Agassiz.

With his influential patrons and with the support of the powerful chief of the engineers, Holder was well supported at the fort. To aid his studies, Holder had a cabin built as a laboratory outside the walls, adjacent to the fort's moat. He also had built a concrete "aquarium" jutting out into the Gulf of Mexico waters off the moat wall that he filled with organisms to observe. This was his marine laboratory, making it South Florida's first research lab and the direct antecedent of the Carnegie Institution's marine station that was established in the Dry Tortugas a half century later. Joseph Holder, in fact, was South Florida's first residential professional naturalist.<sup>35</sup>

Holder spent his naturalist time exploring the land and waters of the Tortugas. He had access to boats; and, to assist in his collecting and observing, he engaged his son "Young Charley," a prisoner, "Fat Charlie," and a boatman Busby "the Bos'n" who lived in a room in the hospital building. Charles used these experiences as the basis for his novel.<sup>36</sup> The most colorful hero of all these stories was Fat Charlie, a fellow New Englander who when told to retreat was said to have retreated all the way back home to Vermont to await further orders, which unfortunately resulted in his imprisonment at Fort Jefferson for desertion. He tended to get into well-told difficulties by volunteering for difficult tasks such as wrangling large sharks.<sup>37</sup> He also served the Holders as houseboy and cook, judged by Emily to be good at it. Fat Charlie's story ended well as his valor in helping to secure a wall that was about to collapse led to his pardon after which he met up with a lady whom he had first encountered at the fort and whom he married. Newly literate, his hand-written letter telling of his new life was apparently gratifying to the Holders as both Joseph and Emily wrote about his story.

Much of Holder's research time was spent observing animals and collecting specimens, which were identified if possible, preserved,

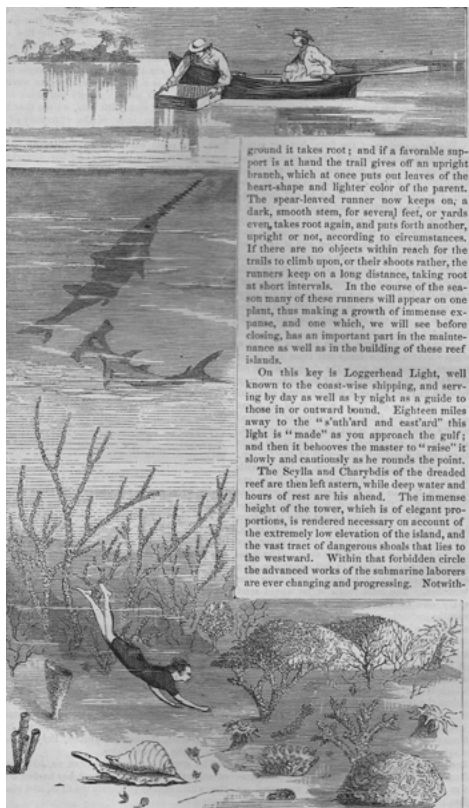


Illustration from Joseph Holder's article on the Dry Tortugas. Kushlan-Hines Collection.

and sent to museums and universities. He also secured live specimens for study in his lab and aquarium. Using an aquascope, he made underwater observations of the shallow coral reefs, seagrass communities, the succession of fouling organisms on artificial structures, and behavioral interactions of the marine life. Holder provides a fetching sketch of use of his aquascope from above with a swimmer below.<sup>38</sup> In addition to his valuable collections, including previously undescribed species, his contributions to science included discovering an unexpectedly rapid growth rate of hard corals (one of Louis Agassiz's original questions), commensalism between the pearlfish (then called a fierasfer) and the sea cucumber, and the poisoning mechanisms of the man-o-war (*Physalia*).

Young Charley came up with the idea that the moat, which was used to hold sea turtles until they were ready for the pot, could also be used as an aquarium, for a shark; and with Fat Charlie he ventured forth without the boatman to catch one. After a widely-watched, failed attempt that dragged them out to sea, young Charley single-handedly landed one and with much help deposited it in the moat. Such experiences likely played a role in his eventual engagement and fame as a deep-sea fisherman. The shark came to be referred to as a provost marshal by the soldiers in its new role as a guard of prisoners who might think twice about escaping by swimming the moat. An attempt to see whether their moat shark would eat a cat went awry, much to the amusement of the onlookers and the chagrin of the commander's wife.<sup>39</sup> The shark continued to refuse to eat and died in a few months becoming a museum specimen. Its fame lived on, however, as it was a central character in a 1936 movie about Samuel Mudd entitled *The Prisoner of Shark Island*.<sup>40</sup>

Joseph's first Tortugas article recounts the opportunity he had to accompany an expedition seeking a cable route from the mainland to Key West and then on to Cuba. The exploration on the east coast took him north through the Florida Keys to the Miami River, while, in between, viewing the Everglades and meeting Seminoles. On the west coast, he went north to Cedar Key observing the coast and meeting "cracker" residents of central Florida. In describing aspects of what he encountered, he provided some of the first natural history observations of coastal South Florida as well as describing such activities of pioneer settlers as panther hunting, pineapple growing, and spongering.

Joseph's other natural history articles use the conceit of taking the reader along on trips around the Tortugas during which he recounts his observations. Although providing a definitive description of the South Florida environment that would stand for decades, he did not write scientifically. He intended for his writing to be accessible and popular, eschewing scientific terminology and, as possible, scientific classifications, making his *Harper* articles accessible yet full of science. In this, he presaged the in-

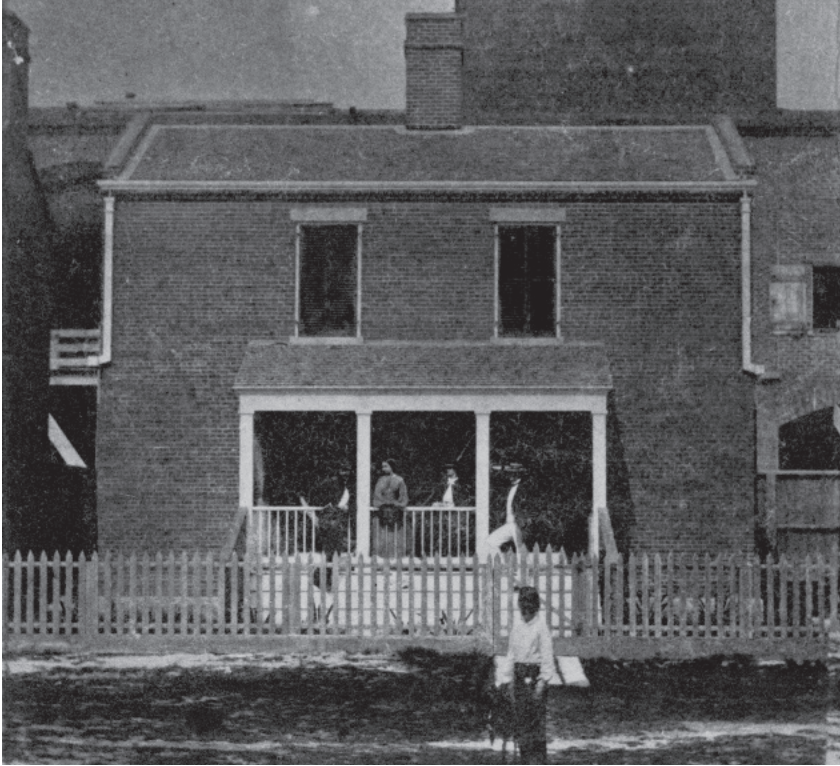
novative and well-received approach he later took to his zoology textbook. In his articles, he did find several occasions to make his arguments against the evolutionists in favor of the Creator's great but unknowable plan of nature. His style was at times punctuated with understated humor and enjoyable stories. However, he speaks out clearly against hunting and wanton killing of birds, calling for laws to protect them, a view a half century early.

### **Life at the Fort**

However satisfying and interesting Dr. Holder's medical practice and natural history studies, the fort remained a difficult place to live, perhaps more so for Emily than for Joseph and Charley with their daily off-island diversions. Fort Jefferson was initially a place of hundreds of men, mostly engineers and workers. It eventually swelled to over a thousand men -- soldiers, sailors, slaves, and prisoners. Many of the prisoners had done nothing of substance to merit their confinement; but some were unreconstructed thieves and even murderers. Most, apart from the Army officers, had no proper shelter and were living in open or partially boarded-over gun rooms, tents, or temporary buildings. And as prisoner numbers swelled, they exceeded not only the accommodations but the jobs that needed doing. Those with nothing to do were kept in their quarters and so suffered from idleness. At any time, many of the hundreds to a thousand men stationed at the fort might be sick. Thus it was not a place without challenges for a family.

Yet Emily tells that she never felt frightened and left the doors unlocked in the belief that the population appreciated Dr. Holder's work and that the guards would keep them safe.<sup>41</sup> She also reports that while Joseph did indeed have some concerns about his close engagements with the prisoners, he felt that his respectfulness in fact was appreciated by them. They also appreciated his theater and his overall kindness and devotion to their health.

The Holders challenges with fort living began immediately on arrival given their unpreparedness for the reality of life there. They had to establish housekeeping from scratch and secure such ne-



The Holder House within the confines of Fort Jefferson. Reference Collection, Otto G. Richter Library, University of Miami.

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cessities as a stove, furnishings, and other domestic paraphernalia as they could from James Watts Robinson's sutler's store and the fort's carpentry shop.<sup>42</sup> Over time, with trips to Key West and arrival of their furniture from the north, their household came together. Later a new house was constructed for them.

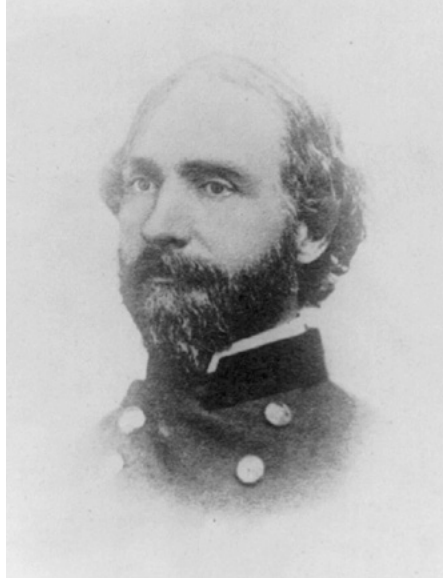
Joseph describes his family's cottage most pleasantly as having a hammock on the verandah and being surrounded by vines, shrub-sized four-o'clocks, fruit-bearing bananas, a large bromeliad that he had brought back from the Miami River, and native night-blooming cereus cactus that scented the evening air.<sup>43</sup> The Holders had pets, a canary, a goat and two rabbits, which they had brought from New York. The singing cage birds were appreciated

by the soldiers and inmates; their rabbits or their descendants, turned loose, came to overrun Loggerhead Key. The idyllic scene Joseph portrays could not be more of a contrast to the quarters described by unhappily incarcerated fort residents.

The Holders were from New England elite on both sides so they no doubt were used to having helpers and servants. At the fort, wanting domestic help, the Holders rented slaves from the lighthouse keeper and later from Key West. At the time, Quakers were not inherently opposed to slavery, but the Holders were certainly not accustomed to slaves or even to “colored” people. Emily’s stories suggest that it was not entirely clear whether the mistress or a manipulative slave was actually in charge of the kitchen. After several attempts, she writes, that she decided explicitly to manage the help by “treating them like children.”<sup>44</sup>

Such a patronizing approach was typical of the time and in fact underlay the theory of Moral Treatment discussed previously. Both Joseph and Emily in writing transcribed their slave’s conversations and that of other uneducated persons in unflattering dialect, as characteristic of the time but nonetheless a pointed reminder the even the genteel Holders held to class distinctions, particularly the distinction between people who were educated and those not. In fact, Joseph, like others of the day, wrote harshly of the uneducated crackers that he encountered in central Florida.

The Holders were periodically joined by other families at the fort including those of other medical personnel, engineer officers, regular Army officers and non-commissioned officers, and the lighthouse keeper, whose family lived in an ample house surrounded by a white picket fence, positioned attractively if somewhat incongruously within the parade ground with the red brick fort overshadowing it. The Garden Key lighthouse and keeper’s quarters were in fact somewhat famous as they had been featured in a James Fenimore Cooper novel.<sup>45</sup> Other families lived in other cottages or officer quarters and they came and went as companies changed and officers were re-assigned.



Daniel Woodbury. Library of Congress.

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The Holders found that the civilian and military families would form a close knit social community. At the time of the Holder's arrival construction of the fort was under the management of Captain Daniel Phineas Woodbury of the Army engineers. Woodbury was a well-educated and well-respected engineer and reigning expert on masonry fort construction.<sup>46</sup> The engineers in charge of the fort were among the top graduates of West Point so the Holders were not lacking for intellectual company among their neighbors. Captain Woodbury and his wife received the Holders on their arrival, initially put them up, and spent many an evening in each other's company enjoying especially the entertainment of Woodbury's piano, suggesting the degree of comfort enjoyed by the officers not available to the other men of the fort.

The Woodbury's also held services on Sunday, which became social affairs for the officers and their families. The wives came together for sewing clutches and created social events such as dinners, plays, dances, picnics, excursions to collect seashells, and long walks around the moat wall. Emily tells of an overnight



adventure to Loggerhead Key to party and then to “turn turtles,” which involved capturing and turning over sea turtles that had come ashore to nest. Children were home-taught, and there was also an impressive library at the fort. According to Emily, the most satisfying events were formal dinners. Arriving ships’ officers were feted and significant events celebrated. Emily’s first dinner required surreptitiously transferring to her house the Woodbury’s furniture and place settings that had been used there the night before. As the war wore on, she most enjoyed being invited onto visiting ships to dine, a relief from the monotony of her own preparations employing limited ingredients.

As discussed previously in the context of health, the logistics of providing food for the fort’s population grew increasingly difficult as the war went on to which Emily had to accommodate to.<sup>47</sup> Not only were supplies less available, as noted, but prices of goods at the fort’s sutler’s shop, Key West, and Havana were high. The Holders and others received well-cherished packages of food from up north. Emily relates that a fresh Bermuda potato or onion was considered a treat. There was at times a small garden within the fort with soil that had been brought in from the mainland; the garden hosted beets, peas, tomatoes, beans and radishes. Among the gardeners were Mudd and Grenfell. It is not clear how productive it was or whether it did much for the overall food supply.<sup>48</sup> Emily’s attempts to create meals and the management of her cooks, as noted previously, were stories she wryly told.<sup>49</sup>

Meat, especially, was limited and of poor quality until late in the war. At various times cattle, hogs, and goats were brought to the islands and kept penned up either in the fort or on nearby islands. During the Civil War, cattle and hogs were pastured and slaughtered on Bush Key, which in Samuel Mudd’s time was called Hog Key.<sup>50</sup> Mudd himself writes that he found “All articles of meat, salt and fresh, are repulsive, I can’t bear the sight of them.” After the war, cattle came from Punta Rasa, Florida, which supplied the trade to Cuba, but were the scrawny north Florida range cattle that lost more weight once on the islands for lack of appropriate fodder.

Soldiers could get permission to take time to go fishing for supplementing provisions. Nesting turtles, turtle eggs, and tern eggs were collected in season. Turtles were the most secure form of protein, as they also could be caught year-round while swimming and could be kept in the moat until slaughter. The vegetarian green turtles were prized whereas the carnivorous loggerhead turtles were not; and turtle eggs apparently were an acquired taste. Fresh tern eggs were collected by clearing a patch of the nesting colony and picking up the newly laid eggs every few days. Collecting Tortugas' tern eggs for food was an activity of long standing. Audubon reported on the extensive take of eggers from Havana in the 1830s.<sup>51</sup>

During the war, the prison population grew to provide manpower for fort construction, especially after President Lincoln changed the penalty for desertion from death to "Imprisonment on the Dry Tortugas."<sup>52</sup> Prisoners came and went as cases were reviewed and pardons issued, especially after the war as President Johnson issued thousands of pardons. The prison population began dwindling rapidly to a more tenable carrying capacity. But this was also the time of the arrival of Fort Jefferson's most persistently famous prisoners, the four men found guilty of being associated with the assassination of Abraham Lincoln, and not hanged. Three were sentenced to life imprisonment and one to 6 years. They had been spirited away after their trial by a military commission with no idea of their destination until they realized in despair that they were heading south to Florida and likely to Fort Jefferson.<sup>53</sup> The decision to place them in an isolated military prison was no doubt for security, but it also put them beyond the *habeas corpus* opportunities of state courts where they would have enjoyed the benefits of home-town and Southern sympathies. Their trial by a military commission rather than a District of Columbia civilian court on vague charges remains controversial, and such trials were deemed illegal by the United States Supreme Court; but the verdicts in these cases were never overturned.<sup>54</sup> The Holders learned of the State prisoners' arrival when it happened.

The most persistently famous of the group was Samuel Mudd, a Maryland physician, tobacco farmer and Confederate sympa-

thizer from a wealthy slave-owning family. He was found guilty of participating in the conspiracy. With the passage of time and scholarship, it is now understood that, while he was unlikely to be a conspirator in Booth's assassination plot, he was a participant in previous conspiracies against the president and an accessory after the fact in the Lincoln murder for his lying about not knowing and not recognizing John Wilkes Booth and for failing to reveal Booth's presence to authorities in a timely manner, which allowed him time to escape.<sup>55</sup> Post-prison Mudd wrote incessantly of his bad treatment and the harsh conditions of his imprisonment at Fort Jefferson, protested his innocence and the trial irregularities, and campaigned for his exoneration. His case, trial, and responses were similar to those of Colonel St. Leger Grenfell, who was convicted of a different conspiracy and who also held himself to be innocent, despite facts to the contrary.

The prisoners overlapped with the Holders for several years. Emily describes Mudd as sullen and brooding and Grenfell as a very scary-looking man.<sup>56</sup> Holders' experience with Mudd in his hospital was not a good one. Mudd himself never writes of his dismissal for cause but rather claims it was punishment for his escape attempt and that he was glad of being rid of the hospital chore.

Key West was the Holder family's infrequent but crucially important retreat. Emily recounts her experiences there with delight.<sup>57</sup> She was well received by the community and made acquaintances and friends in town. They were invited to dinners, carriage rides, and parties. Emily's sister moved there for a time. The largest city in Florida at the time, Key West was the escape where things could be bought, new people met, and civilization re-engaged. One story is of the ladies of the fort going off on their own with the encouragement and co-conspiracy of their husbands. Joseph had the opportunity to experience and report on the hurricane of 1865 in Key West, which splintered his treasured red boat, the *Rosetta*, to pieces. But the public health situation limited their visits. Yellow fever killed some of the Holders' closest Florida friends in Key West.



Charles Holder. Wikimedia.

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It was, ultimately, the isolation of the Dry Tortugas that seemed to be the most severe constraint on the Holders' lives there. As the Dry Tortugas became increasingly isolated as the war progressed and opportunities to visit off-island became fewer and logistically more complicated, their communications with the outside world grew poorer and more desperate. The fort had its own post office early in the war, so letters could come and go although prisoners' mail was read and censored. A ferry, initially the *Tortuga* that had brought the Holder's to the fort, was scheduled to run weekly to and from Key West carrying supplies and mail, but during the war the contract changed hands and service was suspended. Supply ships were scheduled to arrive from Union-held Gulf ports and from Havana but often did not appear for one reason or another.

Communications improved after the war, a fact taken advantage of by the State prisoners to tell their points of view of life at the

fort. News from home via letters and newspapers was eagerly sought by fort residents, and the fastest news came from conversations with those on board the ships that came to call. This is how the surrender of Robert E. Lee and the assassination of Abraham Lincoln came to be known by the Holders. News of Lincoln's death put a long-standing pall over the residents of the fort.

As their post-war stay at the Dry Tortugas was drawing to a close, Charles Holder was, by then, a young man of 17. And the capstone of the story of the Holders of the Dry Tortugas actually belongs to Charles, who not only grew up within the story but whose own life direction was clearly set by those experiences. The boy who dove after specimens for his writer, naturalist and caring physician father wound up himself as a writer, fisherman, and kindhearted civic leader. His own book provides the spirit and purpose of the experience.

The preface begins: "The adventures and incidents of the following story do not belong to the realm of fiction. They are the actual happenings of several boys, one of whom, the author, resided upon a small key of the great coral-reef that stretched away into the Gulf of Mexico from the Florida Peninsula. A portion of nearly every day was spent in floating over the coral gardens for which the locality is famous, or in hunting or fishing for the strange animals which there found home. The excursions were made under the guidance of a naturalist who, while a surgeon in the army and stationed at the post, was studying the corals and other animals of the reef, and who relied not a little upon the young naturalist and diver to collect the specimens in which he was interested, and which, at the request of Professors Agassiz and Baird ultimately found their way into the Smithsonian Institution, the Museum of Comparative Zoology at Cambridge, and other institutions of science throughout the country."<sup>58</sup>

A no-longer young Charles Holder shares in his novel why he and his father came, what they did, and how they did it. Charles's promise of non-fiction did not hold long past the first few lines as Dr. Holder became Dr. Bassett, Charles became Tom, his first trip

to Tortugas became one with his father and friends, his attempt at catching a shark on the Tortugas became a manta ray in the Marquesas, and so on. Dr. Holder's biology lessons while floating above the reef in the *Rosetta* were surely never as pedantic as Dr. Bassett lecturing. The stories and the biology draw heavily from Joseph's and Emily's articles, the latter of which he published in his magazine in the same year as his book. Young Charley's adventures are entertaining and adventuresome. And through it all comes the excitement of seeing this special time through the eyes and wonderment of a boy.

Seven years was a long time for the Holder family to live on the isolated Dry Tortugas, well beyond anything intended. It was a difficult time for Emily to care for her family, likely an exhausting time for Joseph, and more than half of his lifetime for Charles. It is fascinating that each of the Holders tells their own version of the same set of experiences. Together, the three provide modern readers insight into their lives and that of the hundreds of others who passed through Fort Jefferson during the Civil War; and father and son naturalists share their scientifically pioneering biological explorations of Dry Tortugas' coral reef. The Holders deserve to hold a permanent place among the many tales of the Dry Tortugas.

### Endnotes

1. Emily Holder, "At the Dry Tortugas During the War: A Lady's Journal," *Californian Illustrated Magazine* 1, no. 2 (1892), 81-93.
2. An example of a contemporaneous account is that authored by A.O'D, "Thirty Months at the Dry Tortugas," *The Galaxy Miscellany* (1869), 282-288. Examples of soldiers' letters are those of Calvin Shedd (University of Miami Libraries, "The Calvin Shedd Papers, The Civil War in Florida: Letters of a New Hampshire Soldier," <http://scholar.library.miami.edu/shedd/index.html>). The most well known correspondence was that from Dr. Samuel Mudd who was imprisoned at Fort Jefferson after being convicted in the assassination of Abraham Lincoln (Nettie Mudd, *The Life of Dr.*

- Samuel A. Mudd, containing his letters from Fort Jefferson, Dry Tortugas Island, where he Was Imprisoned Four Years for Alleged Complicity in the Assassination of Abraham Lincoln* (New York and Washington: The Neale Publishing Company, 1906). Robert K. Summers, *The Assassin's Doctor, The Life and Letters of Samuel A. Mudd* ( CreateSpace Independent Publishing Platform, 2014).
3. Anonymous, "Death of Dr. Joseph B. Holder," *New York Times*, March 1, 1888, 5. Anonymous, "Joseph Bassett Holder," FamousAmericans.net/josephbassettholder. Essex Institute. "The Retrospect of the Year." *Bulletin of the Essex Institute* 20, Salem, MA: Salem Press, 1888, 162-163. Anonymous. "Dr. Joseph B. Holder," *New York Academy of Sciences* 6 (1887-1888), 251-255. James A. Kushlan and Kirsten Hines, *Dry Tortugas National Park* (Charleston, SC: Arcadia Publishing, 2019), 49.
  4. George Wharton James, "A Great California Nature Writer Charles Frederick Holder," *National Magazine* 365: 597-607 (1911-1912), 604.
  5. Joseph B. Holder, "Catalogue of Birds Noticed in the Vicinity of Lynn, Mass., During the Years 1844-'5-'6." *Lynn Natural History Society Publication*, No. 1 (1846), 162-163.
  6. Anonymous, *New York Academy of Sciences*, 251-255.
  7. In New York, Joseph B. Holder became a well-known biologist and writer. His series of articles describing the biology of the Florida reefs and other parts of South Florida, as well as his stories of life at Fort Jefferson, were the most complete accounts published to date and set a baseline for subsequent naturalist studies. These include "The Dry Tortugas," *Harper's New Monthly Magazine*, 37, No. 218 (1868), 260-267, and "Along the Florida Reef," *Harper's New Monthly Magazine* (1871) 42, No. 249, 355-363; 42, No. 250, 515-526; 42, No. 251, 706-718; 42, No. 252, 820-830; 43, No. 253, 26-36; 43, No. 254, 187-195. He edited and contributed to the book *Animal Creation*, which went through fifteen editions



between 1885 and 1898 (Joseph B. Holder and J. G. Wood, *Our Living World; Popular Edition of the Rev. J. G. Wood's Natural History of Animate Creation Revised and Adapted to American Zoology by Joseph B Holder* (New York: Selmar Hess, 1885). Holder also contributed material on the American fauna to Sir John Richardson's multivolume *The Museum of Natural History* (New York: Virtue and Yorston, 1877). The North American portions were re-published as *The History of the American Fauna* (Joseph B. Holder, *The History of the American Fauna and a general natural history of the world, being a popular account of the structure, habits, and classification of the various departments of the animal kingdom, quadrupeds, birds, reptiles, fishes, shells, and insects, including the insects destructive to agriculture, by John Richardson, William S. Dallas, and T. Spencer Cobbold, assisted by William Baird and Adam White*, New York: Virtue & Yorston, 1877). In 1883 he wrote a treatise on whale morphology: Joseph B. Holder, *The Atlantic Right Whales: Balaena cisarctica, Cope*, New York: *Bulletin of the American Museum of Natural History*, 1883). He also co-wrote with his son Charles a famous zoology textbook, Charles F. Holder and Joseph B. Holder, *Elements of Zoology* (New York: American Book Company, 1885). Passing through fifteen editions from 1884 to 1889, the book was innovative in that it avoided the rote tediousness of animal classification by using plain language and emphasizing life histories with the intention of enticing a broad range of readers to better appreciate nature. Dr. Holder also studied and wrote on archeology. He wrote numerous other popular articles, including for the *New York Evening Post*.

8. Joseph B. Holder, "On the Soaring of Birds," *New York Academy of Sciences* 6 (1887-1888), 83-87.
9. The time span between Holder's observations on birds soaring over the fort and their publication might seem curious, but it is an example of how difficult it is to publish scientific observations that fail to conform to the mainstream of scientific thought of the moment. Holder first discusses his ideas on bird flight in his Tortugas paper (Holder, *Along the Florida Reef*, 193-194). But both Holder

and Darwin were unable to publish their theories in full because their explanations were deemed impossible by authorities. Essentially what Holder proposed was that if one wants to know how a bird soars, study how a boat sail works. Now, bird flight is taught in biology classes by likening it to how the airfoil wing of an airplane works, by the same process of lift.

10. Anonymous, *New York Academy of Sciences*, 255.
11. Emily Gove Holder came from a family that arrived in America in 1656. Her ancestor Edward Gove famously led a conscience-based revolt against corruption of the New Hampshire governor, which landed him in the Tower of London with his large American estates being seized. They were restored by Britain's seventeenth century Lord Protector Oliver Cromwell. ("Emily Holder," <https://www.findagrave.com/memorial/7922503/emily-augusta-holder>. "Emily Holder," <https://etc.usf.edu/lit2go/authors/index/h/>. W. R. Cutter, *Genealogical and Personal Memoirs: Relating to the families of Boston and Eastern Massachusetts* (New York: Lewis Historical Publishing Company), 1908, 153-154.) Other ancestral background is provided by Charles in Charles F. Holder, *The Quakers in Great Britain and America* (New York: The Neuner Company, 1913), 337-338.
12. Published in five parts in multiple issues of the magazine, Emily Holder's report of her and her family's time at the Dry Tortugas is one of the primary sources of information about civilian life at Fort Jefferson during the Civil War. Her memoir was published by Charles, who, along with James Livernash, was the owner and publisher of the magazine. Emily Holder, "At the Dry Tortugas During the War," *Californian Illustrated Magazine* (San Francisco), (1892) 1, No. 2, 87-93; 1 No. 3, 179-189; 1 No. 4, 274-282; 1 No. 5, 397-403; 1 No. 6, 585-589; 2 No. 7, 102-109; 2 No. 2, 206-10; 2 No. 8, 388-95; 2 No. 8, 557-60. Although the magazine itself is difficult to procure, the text was copied by the WPA Federal Writer's Project as *At the Dry Tortugas During the War: A Lady's Journal(1892)* (Library of Congress, Manuscript Division, WPA Federal Writers Project Collection) and is available on-line or

- printed from a number of sources (e.g., <https://fcit.usf.edu/florida/docs/t/tortugas.htm>) as *Emily Holder At the Dry Tortugas During the War*. WPA-derived sources lack citable page numbers.
13. G. F. Kunz, G. F. “Dr. Charles Frederick Holder,” *Science* 42 (1915), 823–825; “Charles Frederick Holder Funeral Tomorrow,” *The Bakersfield Californian*, October 11, 1915; James, 604; J. Apostol, “Life in the Open with Charles Frederick Holder,” *Southern California Quarterly*, 96 (2014), 206–221, 2014; “Charles F. Holder” <https://www.youtube.com/watch?v=KfELrazy2bs>; “Charles F. Holder” <https://www.hmdb.org/marker.asp?marker=49856>.
  14. Charles F. Holder’s many publications covered such areas as natural history, biography, big game fishing, hunting, outdoors, conservation, especially the role of hunting and fishing in conservation, boosterism for southern California, history, and anthropology. Beyond *Elements of Zoology*, which he co-wrote with Joseph, his books include: *Charles Darwin: His Life and Work* (New York: G. P. Putnam’s Sons, 1891); *Louis Agassiz: His Life and Work* (New York: G. P. Putnam’s Sons, 1893); *The Big Game Fishes of the United States*, (American Sportsman’s Library, New York: MacMillan Company, 1903); *The Log of a Sea Angler* (Boston: Houghton Mifflin Company 1906); *Life in the Open: Sport with Rod, Gun, Horse, and Hound in Southern California* (New York: G. P. Putnam’s Sons, 1906); *A Method of Studying the Life History of Fishes*, *Bulletin of the Bureau of Fisheries* Vol. 26, Washington, DC: Government Printing Office (1910); *Salt Water Game Fishing* (New York: Outing Publishing Company, 1914). Historical works include: “Chinese Slavery in America,” *The North American Review*, 165 (1897), 288–294; and his *The Quakers in Great Britain and America*, cited above. His articles numbered in the hundreds in such journals as *National Geographic Magazine*, *Scientific American* and sporting magazines.
  15. Charles F. Holder, *Along the Florida Reef* (New York: D. Appleton and Company, 1892). Charles re-used the title of his father’s series.

16. Patricia R. Wickman, *Osceola's Legacy* (Tuscaloosa, AL: University of Alabama Press, 2006), 206-213.
17. Fanny Nedelman, *John Brown's Body: Slavery, Violence, and the Culture of War* (Chapel Hill, NC: University of North Carolina Press, 2004), 52.
18. James A. Kushlan and Kirsten Hines, 49.
19. It is something of an irony that it was the Federal government's soon to be Unionist Army that introduced widespread slavery to Key West, where there had been little demand before. Residents bought slaves for the sole purpose of renting them out to work constructing the forts at Dry Tortugas and Key West. The northern workers did poorly during the hot "sick" months of summer, and so work usually had to be suspended seasonally. US Senator, and later, Confederate Secretary of the Navy, Stephen Mallory, who was a native Key Wester, pivoted around an adverse conflict-of-interest determination by having his wife rent out her slaves. One of the largest dealers of the town's slave-holders was James Filor (spelled Philor by Emily Holder) who lent the Holders his carriage so they could take drives when in town. Otherwise, Filor was not only a slave owner but a negro-harassing Key West town marshal. A copy of a check shows Woodbury paid Filor the 2020 equivalent of \$77, 000 for rental of his slaves (Kushlan and Hines, 31).
20. Summers, 404.
21. Kushlan and Hines, 58.
22. J. Holder, "Along the Florida Reef," 828.
23. Summers, 513.
24. Summers, 514.
25. Kushlan and Hines, 34.

26. Summers, 503.
27. J. Holder, "Along the Florida Reef," 35-36.
28. Grenfell's complex history was admirably researched and presented by Stephen Z. Starr in *Colonel Grenfell's Wars, The Life of a Soldier of Fortune* (Baton Rouge, LA: Louisiana State University Press, 1971). Although he made up much of the well-known details of his life story, Grenfell had broad military experience in Europe - and perhaps Africa, Asia and South America - before volunteering to fight for the Confederacy where he achieved fame, honor, and a place in Confederate history while serving as adjutant in Morgan's Raiders See Cecil Fletcher Holland, *Morgan and his Raiders, A Biography of the Confederate General* (New York: Macmillan Company, 1942). He later presented himself to officials in the North, lied about the circumstances of his departure from the Confederate forces, and participated in planning the Northwest Conspiracy, a plan by Confederates to carry the war to the cities of the North by arson and other means. Convicted in military court, he was sentenced to death; but, faced with interventions by British officials in America and widespread publicity, he was instead sent to Fort Jefferson to serve a life sentence. At the time he was over 60 years of age but remained as undisciplinable as ever. With the anticipated arrival of an officer to the fort that he had previously criticized publically, Grenfell felt it time to leave, stole a boat, rowed out into a storm, and was never heard from again.
29. Summers, 310.
30. Ruth C. Engs, *Clean Living Movements: American Cycles of Health Reform*. Westport, CN: Greenwood Press, 2001). Richard D. Semba, "The Discovery of the Vitamins." *International Journal for Vitamin and Nutrition Research*, 82 (5), 2012, 310-315.
31. N. Hervey, "Advocacy or Folly: the Alleged Lunatics' Friend Society, 1845-63." *Medical History* 30, 1986, 245-275. Anonymous, "Studying the Mind: Psychology and Mental Health," *Quakers in the World*, (2019), <http://www.quakersintheworld.org/quak->

ers-in-action/377/-Studying-the-Mind-Psychology-and-Mental-Health.

32. James A. Kushlan, "John James Audubon in South Florida," *Tequesta* 75 (2015), 9-47. James A. Kushlan, *Seeking the American Tropics, South Florida's Early Naturalists* (Gainesville, FL: University Press of Florida, 2020).
33. Louis Agassiz's pertinent practical findings on the Florida reef were published in abstract form by Alexander Bache in his annual report to Congress but otherwise were little distributed (Alexander Dallas Bache, "Appendix No. 10, Extracts from the Report of Professor Agassiz to the Superintendent of the Coast Survey, on the Examination of the Florida Reefs, Keys, and Coast," *Report of the Superintendent of the Coast Survey for 1851*. ( Washington, DC: Department of the Treasury, 1851). Eventually, Louis' son Alexander Agassiz oversaw the publication of Louis' full and superbly illustrated report thirty years later (Louis Agassiz, "Report of the Florida Reefs," *Memoirs of the Museum of Comparative Zoology at Harvard College* 7, (1882), 1-61.) Notably, this was a decade after Joseph Holder had published his studies of the Tortugas reef. Although Louis Agassiz's study preceded his, Holder's articles were the first widely published study of the Dry Tortugas reefs.
34. Kushlan and Hines, 46.
35. Kushlan, 2020.
36. C. Holder, 1892.
37. Kushlan and Hines, 53.
38. J. Holder, "Along the Florida Reef," 27.
39. J. Holder, "The Dry Tortugas," 254.
40. Kushlan and Hines, 35.

41. E. Holder, 1892.
42. Kushlan and Hines, 55.
43. J. Holder, "Along the Florida Reef," 260.
44. E. Holder, 1892.
45. Although James Fenimore Cooper's *Jack Tier, or the Florida Reef Tract* (New York: Burgess, Stinger & Co., 1848), was published as a book in 1848 and earlier in serialization as "The Islets of the Gulf; or Rose Budd" in *Graham's Magazine*, Philadelphia Pa. (Nov. 1846 - Mar. 1848), it was his only work to be first serialized, which may account for its inconsistencies. Cooper had published his *Leatherstocking Tales* twenty years previously, and this book was more grimly realistic and contemporary in timeframe. Cooper had never visited the Tortugas, but its situation was well documented so he could realistically set his scenes there.
46. It is to Daniel Woodbury and his master mason George Phillips that Fort Jefferson owes its 2000 harmonious, long-standing, and still admired arches. Some of the great engineering minds of the time were associated with Fort Jefferson, which was as much an ongoing experiment as a building project. Woodbury was also responsible for building the Loggerhead Key lighthouse, which he had significantly re-designed. Both the lighthouse and the fort remain surprisingly sound more than 150 years later in no small part because of Woodbury's expertise. His work at the fort is discussed by Thomas Reid in his *America's Fortress* (Gainesville, FL: University Press of Florida, 2006), 19–22, 24, 89). Woodbury's contributions to engineering included his own books on brick arches and walls, *Sustaining Walls, Geometrical Constructions To Determine Their Thickness Under Various Circumstances* (Washington, DC: Taylor and Maury, 1854) and *Treatise on the Various Elements of Stability in the Well-proportioned Arch. With Numerous Tables of the Ultimate and Actual Thrust* (New York: D. Van Nostrand, 1858). After departing Fort Jefferson, Woodbury was responsible for engineering brigades during the Civil War. He

rose to the ranks of brevet brigadier general. In 1863, Woodbury returned to South Florida as overall commandant of Key West and Tortugas where he died of yellow fever, a loss deeply felt by the Holders.

47. E. Holder, 1892.
48. Summers, 421.
49. E. Holder, 1892.
50. William B. Robertson, Jr., *The Terns of the Dry Tortugas*, Bulletin of the Florida State Museum 8 No 1. (1964) 11; J. Holder, "Along the Florida Reef," 262; Summers, 362.
51. Kushlan, 2015, 30.
52. J. Holder, "Along the Florida Reef," 821.
53. Summers, 92-97.
54. Martin S. Lederman, "The Law of the Lincoln Assassination," *Columbia Law Review*, 118, No. 2, 2018, <https://columbialawreview.org/content/the-law-of-the-lincoln-assassination/>.
55. Summers, 590-603.
- 56.. E. Holder, 1892.
- 57.. E. Holder, 1892.
58. C. Holder, 1892.