

# Smithson and Adams: The Will to Promote American Science

by Marsha Freeman

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## **The Stranger and the Statesman**

by Nina Burleigh

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In December of 1903, fifty-six year old Alexander Graham Bell, the inventor of the telephone, and his wife Mable (who was deaf from birth), did not spend the Christmas holiday at home with their family, but in an old British cemetery in Genoa. They had traveled by ship to Italy, at their own expense, to reclaim the remains of a British mineralogist, James Smithson, who had died three quarters of century earlier. The grave was in peril, because owners of an adjacent marble quarry were expanding their blasting, and the cemetery was to be demolished.

Bell, who was a regent of the Smithsonian Institution, was determined that the body of Smithson be re-interred in Washington, at the site of the Institution that bore his name, and that had been created through his bequest. Today, those remains rest in the Mortuary Room in the main Castle building of the Smithsonian Institution, in Washington, DC.

In life, John Smithson had never been in America, and in his will, there is no hint as to why he left his fortune to the United States government, for the explicit and singular purpose of creating the Smithsonian Institution, for the "increase & diffusion of Knowledge among men."

Previous writers have been unable to answer the question of why Smithson bequeathed what had been his own inheritance to the young American nation. Part of the reason is that the 14 boxes of his personal effects, including Smithson's papers and notes, that had been brought to America in 1838 along with his fortune, vanished in a fire in the Castle in 1865. But Burleigh has woven together a fascinating portrait of this man, by supplementing what is known about him with contemporary sources that describe the world of science in which he participated, as well as the social and political context for his life.

She also carries Smithson's story to its conclusion, recounting the political fight engaged in almost single-hand-

edly by Congressman and former President John Quincy Adams, between 1836 and 1841 to rescue Smithson's fortune from the grip of a short-sighted and greedy Congress, and an anti-science President. Without John Quincy Adams' will to create the Smithsonian Institution, there is no doubt the benefactor's funds would have been squandered; his vision to leave to posterity a unique institution of science and learning, lost.

Few of the museum's visitors to any of the 16 museums of the Smithsonian Institution, have any inkling of the story behind the man whose name appears on almost every building on the National Mall. Nina Burleigh's insightful book not only chronicles the times and life's work of James Smithson, but also the American System faction in the United States that brought his vision to reality.

## **A Life in Science**

James Smithson was born in early 1765, the bastard son of Earl Hugh (Smithson) Percy, who in 1766 became the Duke of Northumberland. James Smithson's mother, Elizabeth Hungerford Macie, was widowed and inherited a fortune at the age of 29. When she became pregnant, she withdrew to France to have her out-of-wedlock first child.

James Smithson had a difficult childhood, as his mother fought to hold on to her late husband's properties, and the Duke never acknowledged his son James. He grew up using the name Macie, and changed it to Smithson to fulfill his mother's wish, following her death in 1800.

During his childhood years, James Smithson lived in both Paris and London, was fluent in a number of languages, and was well aware of his noble, though tarnished, heritage. He and his mother moved from Paris to London in 1774, just as the storm clouds of the Revolutionary War were gathering.

An interesting, perhaps first brush young Smithson had with knowledge about the young America, came when his half brother, Hugh Percy, became a war hero during the American Revolution, fighting on the British side.

As Burleigh recounts, Percy "had been honored for his conduct in leading British troops—without ammunition—in retreat from Concord over thirty miles in ten hours, with American rebels shooting at them fully half the way." One British analyst at the time, Burleigh reports, believed Percy "appreciated better than any other Englishman the temper and ability of the Americans," and that he was not supportive of many of the Crown's policies toward the colonies. During his time in America, Hugh Percy made numerous friends among the former colonials, and his portrait still hangs at Boston Hall, "alone among the British leaders to be so honored."

At college age, James Smithson decided that his chosen field would be chemistry, and he joined what was then the fast-paced world of mineralogy, where new elements and minerals were just being discovered. His work included the examination of crystals and "obscure minerals."

On April 26, 1787, then 22 years of age, he became the



*An extraordinary, and today largely unknown collaboration between James Smithson (1765-1829) (left) and John Quincy Adams (1767-1848) led to the establishment of the Smithsonian Institution.*

youngest full member of the prestigious British Royal Society. That institution, which had been formed in 1662, entertained guest lecturers from every field of science, from numerous countries in Europe, and occasionally at its meetings had on display artifacts gathered from expeditions during the Age of Discovery that the Society was helping to organize.

James Smithson carried on his mineralogical work with the utmost seriousness, and attention to detail and minutiae, Burleigh reports. He defended this approach, stating: “There may be persons, who, measuring the importance of the subject by the magnitude of the objects, will cast a supercilious look on this discussion,” of mineral analysis. “But the particle and the planet are subject to the same laws, and what is learned upon the one will be known of the other.”

While Smithson did not put forward any bold new hypotheses in his reseaches, but rather tried to help tease out, through the use of the crude tools available at the time, the composition and geological history of the Earth, he did identify new minerals and make discoveries. He was recognized by his peers as a serious mineralogist, working tirelessly to break substances down to their essences. In 1832, a French chemist proposed that zinc oxide—which today in white cream form is used to ward off sunburn—be named smithsonite after him, which it was, as Smithson had published a paper on it in 1802.

James Smithson engaged in interesting, and sometimes dangerous, field work, and from 1788-1798, embarked on a Grand Tour of the Continent, traveling to Italy, Germany, and Switzerland. He collected and analyzed samples of new materials, and had the opportunity to make his work known to some of the most respected scientists of his time, including premier French mineralogist Abbe Rene-Just Hauy, who

praised Smithson’s work analyzing rhomboid crystals. In Paris, Smithson met Europe’s premier chemist, Antoine Lavoisier.

At the time of his death, there remained more than two hundred unpublished manuscripts and other material that reflected his broad interest in science. He also left what were described as “cylopedic notes,” all of which burned in the 1865 Smithsonian fire.

### **The Age of Exploration**

James Smithson was most fortunate to have chosen science as a vocation in the middle of the 18th Century. And the British Royal Society, to which he belonged, was most fortunate to have Joseph Banks as its president for 41 years.

Elected in 1778, Banks served as a kind of networking center for scientists across Europe, and as a young man, himself engaged in several government-financed expeditions the Royal Society had been overseeing. Banks participated in a three-year journey around the world, to view the transit of Venus across the Sun in the South Seas in 1769, on the famous ship *Endeavour* (for which the Space Shuttle orbiter is named) with then-Lieutenant James Cook. Banks oversaw or was “otherwise involved” in numerous expeditions, including Cook’s other South Seas trip in 1772, a search for the North Pole a year later, and Cook’s last expedition to Hawaii in 1776.

Throughout the 18th Century, exploration of the American continent was also of great interest to European scientists, and Banks also oversaw some expeditions to the new world. As Alexander von Humboldt and other European naturalists traveled across the Atlantic to discover new species of plants and animals, Americans complained that “even the plants

collected on the Lewis and Clark expedition were classified by a visiting German.”

As president of the Royal Society, Banks entertained scientific visitors at his home and at the Society, and Burleigh reports that “natural philosophers met in Banks’ house and talked of many matters: the new flying machines called steerable balloons just invented in 1783, Benjamin Franklin’s electrical experiments, better telescopes, recently arrived fossils, the composition of air.”

In the mid-18th Century, electricity, Burleigh states, was “the obsession of the age.” Italian Luigi Galvani, the Frenchman Ampère, the Dane Oersted and the American Franklin were laying the basis for the coming revolution of electricity.

In chemistry, and its related field of geology, new discoveries were occurring almost by the day. In 1778, Antoine Lavoisier identified oxygen, and new elements were being added to the lexicon of science. Smithson’s closest scientific colleagues and correspondents were those similarly engaged in the study of chemistry and mineralogy, particularly in France. But one of his most interesting colleagues, attending Society meetings along with Smithson, was William Thornton, who would later go to America, and be chosen as the architect to design the elegant Capitol building for the young nation. Thornton was among the party with Smithson who ventured across Scotland during a scientific expedition.

The Royal Society “gave [him] a social life and a professional standing that he might not have had otherwise,” Burleigh writes about Smithson, “as a single and unattached young man in London without conventional prospects,” due to his lack of social standing in the British noble hierarchy.

A solitary man who never married, Smithson did have a broad circle of peers and companions. Burleigh reports that these included Christopher Pegge, in anatomy; George Shaw, an Oxford doctor of physics; and Finnish chemist and mineralogist Johan Gadolin, who discovered the element yttrium. Smithson was in correspondence with scientists involved in a broad range of scientific inquiry, from all over Europe.

After his ten-year scientific tour of Europe, Smithson moved back to Paris, and was there through the unfortunate chapter in French history that included the bloody aftermath of the French Revolution. Although Joseph Banks and the Royal Society worked to provide safe passage for its members through the chaos of the Napoleonic Wars, they were not always successful.

As Joseph Banks wrote hundreds of letters to officials to try to protect scientists on both sides of the English Channel, scientists in England and France considered themselves a United Republic of Letters. “The sciences are never at war,” wrote British scientist Edward Jenner, who perfected the smallpox vaccine,” in 1803. Smithson supported this Republic of Letters, writing, “The man of science is of no country; the world is his country, all mankind his countrymen.”

But in 1807, Smithson was taken prisoner as he was fin-

ishing his research in Denmark. He was briefly free, Burleigh reports, but then re-imprisoned in Hamburg, where he spent a year before being able to contact anyone who could come to his aid. This left his health permanently damaged, and undoubtedly shortened his life.

In these last years of his life, Smithson spent much of his time in Paris, and his circle of colleagues included some of the greatest younger French scientists of the day. These included chemist Claude-Louis Berthollet, who set up a society at his estate, which “became a gathering of some of the greatest scientists of the time,” including Alexander von Humboldt.

## The Gift to America

James Smithson never traveled to America during his lifetime. No correspondence with Franklin or any other American has ever been found. There is no evidence he wrote any praise or admiration for this country, or its political or economic founding principles. Why did he bequeath to it his entire fortune, worth \$50 million, in today’s dollars?

In addition to the general excitement in Europe during Smithson’s time about Franklin’s experiments on electricity, and the fact that men he knew intimately, such as William Thornton in the Royal Society did leave for America, among his possessions when he died were found travelogues, including a two-volume book about North America by Isaac Weld, who visited the new city of Washington in 1796.

Ironically, in his volumes, Weld discussed the plans afoot to construct a large park, or mall, extending in front of the Capitol building, running east-to-west to the Potomac River. Smithson could hardly have imagined that one day, the buildings that adorn that central city park would be associated with his name.

More important, his own philosophical viewpoint was coherent with the principles upon which the new nation was founded. In response to the proposal of American Christian fundamentalist Granville Penn (grandson of William Penn), that a literal interpretation of the Bible could explain the Earth’s geology, Smithson wrote in 1824: “I have yielded to a conviction that it is in his knowledge that man has found his greatness and his happiness, the high superiority he holds over the other animals who inhabit the earth.”

In 1800, fifty English gentlemen contributed 50 guineas each to create a new “Institution for Diffusing the Knowledge, and facilitating the General introduction, of Useful Mechanical Inventions and Improvements; and for Teaching, by Course of Philosophical Lectures and Experiments, the Application of Science to the Common Purposes of Life.” It was known as the Royal Institution, and James Smithson was a charter member. It echoed, in many ways, Franklin’s American Philosophical Society on the other side of the Atlantic. Smithson was devoted to the idea that scientific knowledge is not valuable for its own sake, but as it leads to applications to improve the lives of men. Here is the link to his bequest—to

found a similar institution in America.

The Royal Institution became the home to some of England's most prominent scientists, and included laboratories where experiments were carried out that had "profound effects on daily life, especially those relating to electricity," Burleigh explains.

But at the age of just 64, and in poor health most of his life, James Smithson died on June 26, 1829. He was surrounded by his books, papers, a telescope, and ten thousand mineral samples which were the fruit of his lifetime of exploration.

In his will, he left almost the whole of his estate, worth \$50 million, in today's dollars, to his nephew, the son of his brother Henry Louis Dickinson. If his nephew should die intestate, Smithson directed, "I bequeath the whole of my property . . . to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase & diffusion of Knowledge among men." His nephew died in 1835.

One might expect that the Congress of the United States and the President would have been elated at the news of Smithson's bequest. Congress was initially disinterested, and took six months just to pass the legislation to pay for Richard Rush's trip to London to claim the 105 sacks of gold. President Andrew Jackson was philosophically opposed to the extension of Federal power, in the name of "states' rights," as his Administration disbanded the National Bank of the United States. The Congress, in its wisdom, tacked an amendment onto a bill which authorized the Treasury Secretary to invest the entire sum of Smithson's money in state stocks. The "diffusion of knowledge" was nowhere to be found.

By 1841, the Arkansas state bonds had stopped paying interest, and Smithson's bequest had been squandered by small-minded and corrupt elected officials. It fell to former President and Representative John Quincy Adams to lead the fight to restore the funds to their original purpose, and leave James Smithson's legacy for posterity.

#### The Fight for the American System

In 1836, John Quincy Adams was the "sole voice" opposed, when the Congress voted to foolishly invest Smithson's money in state stocks. When he had first learned of this unusual gift, he wrote in January 1836: "A stranger to this country, knowing it only by its history . . . brother to a nobleman of the highest rank of British heraldry who fought against the revolution of our independence at Bunker Hill—that he should be the man to found, at the city of Washington, for the United States of America, an establishment for the increase and diffusion of knowledge among men, is an event in which I see the finger of Providence, compassing great results by incomprehensible means."

But even as head of the House committee on the bequest, Adams was unable to sway the minds of lesser men. Burleigh describes Adams as "one of a handful of American presidents

who can be described as truly intellectual. He was an oxymoron, a scholar-politician." Adams had a "passionate interest in mathematics, science, and especially astronomy," and lobbied for the establishment of astronomical observatories, or "lighthouses on the skies," throughout all of his years in public office.

In his first State of the Union address in 1825, President Adams stated that the Federal government had the responsibility for the nation's culture and science, and promoted the establishment of a national university. His ally, Richard Rush, (the son of Dr. Benjamin Rush who was a signer of the Declaration of Independence, and attended Franklin on his deathbed), was a collaborator in Adams' view of nation-building, from his position of Treasury Secretary in the Adams Administration. He was later entrusted to travel to London to secure Smithson's bequest and accompany it back to America.

In the fall of 1839, Adams went on a barnstorming tour, to try to rally public interest in applying the Smithsonian bequest to the purpose for which it was intended. "If I can possibly rouse the public mind to take some interest in this foundation, it may save the fund from being utterly wasted and lost," he wrote in his diary in November of that year.

Congressman Adams was livid when it was made starkly clear in 1841 that Smithson's fortune had been "wasted and dilapidated." He persuaded his House committee to draft legislation demanding that the Federal Treasury give "an accounting of the vanished Smithson Fund, and pledge the U.S. government to step in and make the payments." Thus, due almost solely to the efforts of John Quincy Adams, the funds for James Smithson's establishment for the diffusion of knowledge were replaced, and applied to the purpose for which they were intended.

James Smithson has gained his immortal place in history, not through his own scientific contributions, but through a permanent institution that supports scientific inquiry, and provides the American people the opportunity to study all aspects of the history of this nation.

Near the end of his journey back to America in 1903, when James Smithson's coffin was draped with an American flag and placed on the USS *Dolphin* in New York, bound for Washington, Alexander Graham Bell wrote a speech that he would deliver when they docked at their final destination. It read: "I am deeply moved by the honor and dignity bestowed me to perform the mission of bringing to this country the remains of the late James Smithson. As you are aware, James Smithson [in his] love for our American vivacity and spirit, bequeathed his entire fortune to the United States. . . . It is needless for me to say that as his sole heir and the proud possessor of Smithson's great and generous benefactions, it behooves us at this time to provide an appropriate resting place for his remains, such that will honor him who has so highly honored us."