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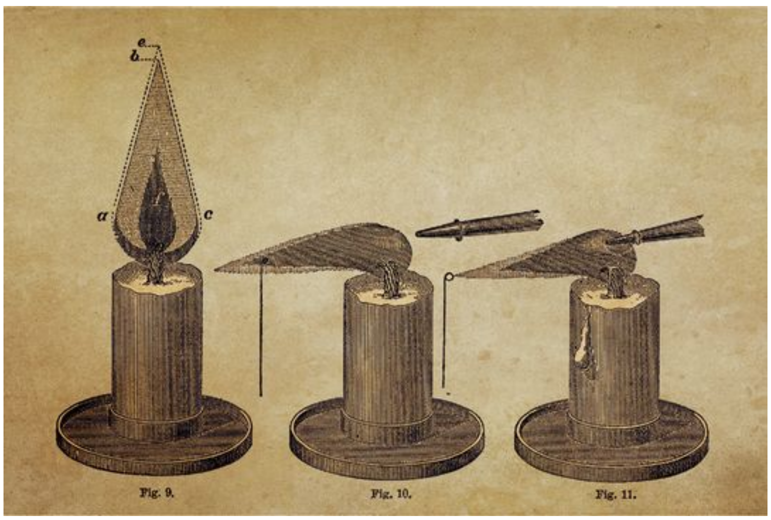
# 'The Science of James Smithson' Review: Unsung Founder

A life of quiet enquiry ended in a magnificent gift to the scientists of the future.




A 19th-century diagram explaining the 'blowpipe analysis' of minerals.

PHOTO: SMITHSONIAN LIBRARIES; ISTOCK

*By Christoph Irmscher*

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Sometime in the summer of 1835, Henry Hungerford, who preferred to be known as the Baron de la Batut, died where his uncle, James Smithson, had died too, in Italy, the unspectacular ending of a brief life dedicated solely to the pursuit of pleasure. Counterfactual speculations are rarely revelatory, but just ponder this for a moment: If the pretend baron had been less of a wastrel, there would have been no Smithsonian Institution, no National Museum of American History, no Smithsonian magazine. And there wouldn't have been a book like Steven Turner's "The Science of James Smithson: Discoveries From the Smithsonian Founder." But Hungerford obligingly left no children, and so the vast fortune he inherited from his uncle went to the United States, “to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men.” For this was what Smithson, who had never set foot on American soil, had stipulated in his will.

The reasons for Smithson’s somewhat accidental bequest have puzzled American historians, as has the donor himself. Like his dissolute nephew, Smithson was an illegitimate child, the son of Hugh Smithson (later Hugh Percy), the first Duke of Northumberland, who never acknowledged him, and Elizabeth Hungerford Keate Macie, the lady of the manor at Weston House near Bath, who had a knack for holding on to her inherited wealth even as she lost a series of lovers and husbands. Throughout James Smithson’s life, his illegitimacy lingered like a bad stain that nothing could wash away. He wasn’t even reliably British. Born Jacques Louis Macie in Paris in 1764 or 1765, his peripatetic childhood ended when he was dispatched to London at age 8. As a naturalized citizen, he was barred from a career in the military or the church. Educated at Pembroke College, Oxford, Smithson found a way out: Cushioned by his mother’s money and his own shrewd investments, he became a widely respected mineralogist, with, as Mr. Turner shows, serious interests in multiple other areas, from plant chemistry to the paint used in Egyptian murals.

Although he published close to 30 articles in leading journals, Smithson’s scientific efforts have often been viewed as mere dabbling, busywork with little impact. Not so, exclaims Mr. Turner, a retired curator of physical sciences at the Smithsonian National Museum of American History. To rectify the record, the author re-creates, down to the smallest detail, the experiments Smithson had conducted and written about, using the tools he would have used. The result is a quirky, oddly touching book that allows us to step, for a few moments, inside the world of a practicing Enlightenment scientist, to sit beside him as he fans the flames of a candle with his little blowpipe, waiting for that small mineral in front of him to melt and yield its secrets.

Equipped with an extraordinary talent for presenting complex scientific facts lucidly, Mr. Turner revives more than a dozen of Smithson’s experiments, from the

Portrait of James Smithson by Henri-Joseph Johns (1816).
PHOTO: ALAMY

THE SCIENCE OF JAMES SMITHSON

By Steven Turner
*Smithsonian, 296 pages, $29.95*

very first one, in which Smithson analyzed tabasheer, the white mineral substance made of water and silica found inside the joints of bamboo plants, to a later test for the presence of arsenic that remained in use for decades. The most consequential of Smithson’s projects—the analysis of an ore of zinc then known as calamine—led to the discovery of a new mineral, zinc carbonate, later named after him (“Smithsonite”). Chemistry wasn’t idle play for Smithson. In the conclusion of his calamine article he finds the composition of his rock sample reflective of larger, grander truths, though he doesn’t spell them out. “A certain knowledge of the exact proportions of the constituent principles of bodies,” he wrote, might “open to our view . . . general laws, etc. which at present totally escape us.”

But this is how things always seemed to go with the redoubtable Smithson: He’d knock on the door of some great insight (in this case, the inklings of atomic theory) but never actually dare open it. Contemporaries reported that he was quite the gambling man. Yet in his science he left little to chance. Here, among his rock samples, Smithson found relief from the murkiness of his descent; here, the only limits he would bump up against were those imposed by himself, his knowledge, persistence and skill.

Or so he hoped. But consider what happened when Smithson thought he had identified certain “vegetable principles” (“chromophores,” in modern scientific parlance) that make flowers change colors as they mature: Blue became red, he argued, because some blue coloring matter had interacted with an acid. Eager to share these principles with his peers, Smithson picked some fancy names for them. One was Ajax, honoring the Greek warrior from whose blood were supposed to have sprung violets when he killed himself—at least according to the poet Edward Young (“The Instalment,” 1726). But the editor of the Royal Society’s journal Philosophical Transactions wasn’t having any of that and drew a big X through the corresponding passage in Smithson’s manuscript, erasing Smithson’s definition of the principle along with the literary allusions. Stripped of the fervor of discovery, Smithson’s article became, in Mr. Turner’s blunt assessment, a pointless “collection of facts.” Smithson never submitted anything to Philosophical Transactions again and soon after departed for France. There at least he was free to be, as he signed his letters, the *Seigneur Anglais*—the English lord.

It is tempting to imagine what would have happened to the field if the Philosophical Transactions editor had held his ink and terms like Ajax, or Pyramus and Thisbe (another one of Smithson’s deleted “principles”), had taken off. Yet as devoutly as Smithson had hoped that his experiments would disclose to him a perfect world governed by foresight and design, a universe in which he, too, would have been allowed to assume his proper station, happenstance, in the end, tended to win the day. And even Mr. Turner’s meticulous reconstructions cannot dispel the sense that, whatever he tackled, James Smithson inevitably missed greatness by a matter of inches.

He had, to be sure, his priorities straight in other ways. Lacking access to Smithson’s blowpipe and minerals, I felt motivated to replicate his instructions for brewing a better cup of coffee, one that would taste good even during travel. Following Mr. Turner’s summary, I placed a sealed glass bottle containing the grounds and water in a boiling pot and then strained the mix through a paper filter. I am happy to report that the result was, indeed, fragrant, strong and hot—no mean feat at a time when, as Mr. Turner points out, most folks took their java weak and flavorless, with clumps of powder floating in the brackish liquid.

Smithson's life, perhaps the strangest of his experiments, ended on June 27, 1829, in Genoa. Almost two decades later, the displaced nobleman-turned-mineralogist achieved his posthumous, unanticipated apotheosis when Congress finally agreed on a plan for his 105 sacks of gold. Beginning in 1847, the Smithsonian Institution Building rose on Washington's Mall, a red sandstone structure constructed in the Norman style, looking as appealingly eccentric today among all that white marble as Smithson does in the annals of the history of science. Though he had not asked for it, the Seigneur Anglais had, at long last, gotten his castle.

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