The Doomsday Lobby
James T. Bennett

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Hype and Panic from Sputniks, Martians, and Marauding Meteors

Springer
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Chapter 1
Introduction and Overview

Federal patronage of science was never contemplated by the men who wrote the U.S. Constitution. The Founders did seek, in Article I, Section 8, to “promote the Progress of Science and useful Art” by granting inventors patent rights, but direct subvention to scientists and scientific organizations was not considered within the realm of the central government.

Yet today, Washington has become the primary patron of American science. As in so many other areas of life and policy, the Founders would be astonished by this development. As historian Walter A. MacDougall writes, “the financial, military, and organizational demands of ‘big science’ tended to reinforce the national state as the most efficient agent of technical change.”

Big Science demanded Big Government — and vice versa. This transformation from a science that relied on private patronage to a science that is in many ways a creature of the federal government is partly explainable in terms of the general growth of state power in all areas, but it is also the result of media-savvy campaigns by advocates of Big Science to convince legislators and taxpayers that a vast expansion of government science is necessary to meet emergencies or perform herculean tasks of dubious usefulness. This book examines episodes during which those who favor a significant role for the federal government in science have used — and are still using — crises, whether real or hyped, to further their goals.

Chapter 2 develops the history of the relationship between science and government in America, with an emphasis on the flourishing of certain fields — particularly astronomy — due to private patronage. For instance, the golden age of American telescope making, from the late nineteenth through the
early-mid twentieth centuries, when the great observatories were built and equipped, was the product almost exclusively of the private sector, and of the often reviled “robber barons” who sought immortality — or at least respectability — by attaching their names to instruments and observatories that looked deep into the sky.

War has always been good at welding the link between Big Government and Big Science. Chapter 3 studies the period when the peacetime linkage between the federal government and science was well and truly consummated: the five years between the release of *Science — The Endless Frontier* (1945), the report to President Roosevelt by Vannevar Bush, dean of politicized scientists, and the resultant creation in 1950 of the National Science Foundation, which established in the bureaucracy an official partnership between Big Science and Big Government. This was a signal achievement of the Cold War and the communist scare. Special attention is given to eloquent upholders of laissez-faire principles, such as Frank Jewett, president of Bell Telephone and the National Academy of Sciences, who spoke a language of voluntarism in an age of coercion.

Chapter 4 examines the fallout from *Sputnik*, the Russian satellites first launched in 1957. The U.S. education establishment (assisted by the building trades of the AFL-CIO) exploited the media-fanned panic over *Sputnik* to persuade Congress to pass legislation providing for unprecedented federal involvement in what had formerly been an almost purely local and state concern: the education of children. *Sputnik* forever altered the terms of the debate over federal aid to education; indeed, it can be said to have almost ended the debate, as the traditional view of education as a province of local governments has since been muted virtually into silence.

Chapter 5 reviews the more recent attempt to galvanize the federal government in support of a fantastically expensive exhibition of Big Science: a manned mission to Mars, a persistent enthusiasm of recent American presidents in search of a crowning achievement. The Mars boosters have gained traction not so much by exaggerating threats — though some argue that we must begin to plan for the evacuation of our planet due to eventual environmental catastrophe — as they have by proclaiming it the duty of government-subsidized science to perform an interplanetary act of “national greatness” at a staggering cost to the taxpayer.

Chapter 6 discusses the often-colorful ways that media-savvy seekers of federal funds are currently using the science-fiction-like threat of killer comets and asteroids — fanciful doomsday scenarios of DEATH FROM THE SKIES! — to secure funding for favored astronomy projects. These Chicken Littles have taken a possibility of exceeding remoteness and, with
diligence and a talent for scaring the wits out of laymen, magnified it to such an extent that they are carving out untouchable turf in battles over the allocation of federal science research funds. After all, their mission—preserving life on earth—trumps all other causes.

The final chapter distills the essential arguments developed in earlier chapters to show that, like oil and water, politics and science do not mix well. When government plays the central funding role in science, issues are imbued with a political correctness that impedes objective, unbiased inquiry, which is the very essence of science. Although this study focuses on astronomy, the recent controversy roiling around the issue of global warming (“Climategate”) and the efforts of its proponents to ensure that the data support their claims is an excellent example of how government funding can corrupt scientific inquiry.

We should take the predictions and warnings to follow, which range from cautions that the United States will be vanquished if it does not establish science bureaucracies to alarmist tales of killer asteroids wiping out life on Earth if astronomers do not get their share of federal dollars, with more than the proverbial grain of salt. For fiction in the service of science is an old story in the annals of government-building. My colleague at George Mason University, Walter Williams, has compiled predictions made within the last half century that have not exactly come true. For instance:

“The threat of a new ice age must now stand alongside nuclear war as a likely source of wholesale death and misery for mankind.” — Nigel Calder, New Scientist, 1969

“The cooling since 1940 has been large enough and consistent enough that it will not soon be reversed.” — C.C. Wallen, World Meteorological Association, 1969

“[I]n the 1970s . . . hundreds of millions of people are going to starve to death.” — Paul Ehrlich, 1968

These three predictions demonstrated that their sayers were far from soothsayers. It would be hard to be more wrong than Calder, Wallen, and Ehrlich were—not that it harmed their popular reputations all that much.

Similarly, and despite the elaborate scare stories of the prophets of Big Science, the United States never did fall into a scientific Dark Age, or get overrun by communist hordes, or get taken to school by superior Soviet scientists, or lose the spirit of innovation due to our failure to send an astronaut to Mars, or get wiped out à la the dinosaurs. But the veracity of the threat-makers doesn’t really matter. All that counts is that enough politicians believe them. All that counts is that the pipeline of federal dollars flows. And so far, that flood of dollars shows no sign of shutting off.
Notes


Chapter 2

American Science before the Bomb

The patronage of science by the new national government was barely even an afterthought in the Constitutional Convention of 1787. On September 14, in the final week of the conclave, James Madison of Virginia and Charles Pinckney of South Carolina moved to give the Congress the power “to establish an University.”1 There appears to have been very little debate on the matter — or perhaps Madison, who took the most detailed notes, suffered from carpal tunnel syndrome — and the motion was defeated, with four states (Pennsylvania, Virginia, North Carolina, and South Carolina) in favor, six (New Hampshire, Massachusetts, New Jersey, Delaware, Maryland, and Georgia) opposed, and Connecticut divided. (The majority of New York’s delegation had left town, and Rhode Island never sent anyone to Philadelphia.)

Thus, the Framers of the Constitution rejected the only effort to include in that document a subvention, even if indirect, of science and scientific research. The Constitution did “promote the Progress of Science and useful Art” by establishing the power to grant inventors and authors an “exclusive Right” to their creations — a patent, in other words. In this way, it gave inventors and men of science free rein to follow the muse and profit from whatever might flower from their genius.

The early sessions of Congress saw sporadic attempts by advocates of a more energetic national state to bring scientific research within the purview of the new government. Yet in the very first Congress, Maryland Rep. Michael Jenifer Stone, referring to a brief discussion of establishing a national university, to which there was overwhelming opposition, said, “We
have already done as much as we can with propriety; we have encouraged learning, by giving to authors an exclusive privilege of vending their works; this is going as far as we have power to go by the Constitution.”

“As far as we have the power to go by the Constitution”: it’s been a long time since that kind of language was common in the Congress.

Seekers of federal backing for scientific projects had little luck when importuning Congress. For instance, a February 3, 1796, petition from Frederick Guyer seeking “pecuniary aid from Government to enable him to prosecute his researches for the discovery of the longitude by lunar observations” was rejected out of hand by the relevant committee “as unconstitutional.”

Rep. John Page, a Jeffersonian Republican of Virginia, expressed the hope that by flatly rejecting Guyer’s entreaty the Congress would lay down, once and for all, the correct constitutional position and “save Congress from similar applications.” No such luck, Rep. Page. Eventually, Congress would be inviting such applications. It would solicit the solicitors, and treat them solicitously.

This is not to say that the federal government in its early years adhered to a scrupulously hands-off policy regarding science.

The Swiss-born surveyor F.R. Hassler, a professor of mathematics at West Point, undertook the first United States Coast Survey in 1807 at the behest of that sometime strict constructionist, Thomas Jefferson. (As a strict constructionist of the Constitution, Jefferson believed that a constitutional amendment would be necessary to permit the feds to subsidize even a national museum in the federal city.) Early federal assistance to science was somewhat indirect, often in the form of aiding explorers. For instance, Lewis and Clark were said to further commerce with the West, thereby justifying federal provisioning of their journey.

Yet even the coastal survey and meteorological studies were viewed skeptically by members of Congress inclined to a strict constructionist view of the Constitution. Open the till to pay for even such reasonable activities, they charged, and you will never be able to close the till again. Moreover, the sectionalism that marked 19th-century American politics was at play, as representatives of inland states or districts contended, with justification, that a coastal survey or other aids to navigation were artificial boons to eastern seaboard commerce.

As Americans had become politically independent of Europe, so did they seek not scientific independence, for science knows no national boundaries, but scientific distinction. It was to be achieved in ways other than through royal patronage or national subsidy. There were no kings to bow and scrape to and from whom to beg money. There wasn’t even a National Science Foundation.
Private organizations dedicated to the exchange and diffusion of knowledge among scientists sprang up naturally — for example, the American Academy of Arts and Sciences in Boston, the American Philosophical Society in Philadelphia, and the American Academy for the Advancement of Science (founded as the Association of American Geologists and Naturalists) in Philadelphia.

The writing, to some, was on the wall, if not the appropriations bill. As British chemist Joseph Priestley said to the American Philosophical Society: “I am confident...from what I have already seen of the spirit of this country, that it will soon appear that Republican governments, in which every obstruction is removed to the exertion of all kinds of talent, will be far more favorable to science, and the arts, than any monarchical government has ever been.”

The local societies of amateur scientists, which sponsored lectures and sometimes even publications, which brought together men and women of kindred interests, did much to spread the spirit of scientific inquiry throughout the land. “In 1846, New England had fourteen of the nation's thirty-two existing scientific societies,” with most of the rest (eleven) in the Middle Atlantic states of New York, New Jersey, and Pennsylvania. Science was finding its level, with no help from Washington. In fact, most men of science had no intention of seeking alms from the government. As Robert V. Bruce writes in *The Launching of Modern American Science: 1846–1876* (1987), “Scientists tended to be self-sufficient, self-controlled, independent-minded, assertive, even domineering.” They were not the sort to whimper and purr for state favors with a self-diminishing docility.

Yet in Washington the first stirrings of the eventual, if uneasy, merger of government and science could be heard in the debate over the Naval Observatory.

**Light-Houses of the Skies**

The first great battle over the role of the federal government in science was fought more on celestial than on terrestrial grounds. At issue: whether or not the government should build a national observatory to scan the skies.

For the first several decades of the American republic, the consensus was that such a project went well beyond what was constitutionally permissible. In a pleasing contrast to later debates, its advocates argued on grounds of merit. They had not learned — or maybe they just disdained — the use of threats, scare tactics, and boogeymen. No one stooped to argue that if the federal government did not fund an observatory, Martians would sail from their red planet, heavily armed and hostile in intent, to colonize ours.
Among coastal survey or surveyor F.R. Hassler’s recommendations was the establishment of astronomical observatories in Maine and southern Louisiana — as far north and as far south as conditions would permit. Their purposes would be largely navigational — that is, they would refine the measurements of time and longitude and thereby assist the ships at sea. Hassler envisioned these as “permanent scientific establishments,” but he tipped his hand when speculating on the possibility of placing one of the observatories not at the nation’s extremities but in its capital city. “[V]arious considerations,” he said, “might occasion and favor the desire of placing one of these observatories in the city of Washington, as observatories are placed in the principal capitals of Europe, as a national object, a scientific ornament, and a means of nourishing an interest for science in general.” Hassler had surveyed the political as well as the coastal terrain. It makes sense to butter up the funders.

The Jeffersonian Republicans who were then the dominant party did not respond well to the idea of the national government paying for “ornaments” to its greatness, so even though Hassler picked a spot for the observatory near the Capitol and although President Madison gave the plan his approval in 1816, it died aborning. A subsequent reauthorization of the coastal survey in 1832 stated that nothing in the act should be interpreted “to authorize the construction or maintenance of a permanent astronomical observatory.”

As historian Dr. Charles O. Paullin explained in a paper read to the Columbia Historical Society of Washington, DC in 1921, Hassler was not the only dreamer of supernal dreams. In 1809, William Lambert played to patriotic sentiments in requesting that Congress take steps to create a prime meridian in the United States, rather than relying on the British meridian at Greenwich. This was a canny strategy, as it “seemed to involve a declaration of astronomical independence from Great Britain.” As Paullin writes, “A native republican meridian was to be substituted for an alien monarchical one.”

Given that the United States was in the midst of an extended conflict with Great Britain, which had begun with an embargo in 1807 and would culminate in the War of 1812, Lambert chose a fine time to exploit anti-British sentiment in the service of government subsidy. James Monroe, President Madison’s Secretary of State, declared that “An observatory [to establish the meridian] would be of essential utility.” A House committee agreed, reporting out a bill in January 1813 to do just that, but the observatory, which was to be directed by the grandly named National Astronomer and built in Washington — not as an ornament but as a patriotic necessity! — was lost in the chaos of the war.
The idea of a national observatory got its strongest push from John Quincy Adams, sixth president of the United States, and an avid amateur astronomer for whom “the founding of a national observatory became one of the cherished projects of his later life.”

President Adams, in his inaugural address of March 4, 1825, had pledged fealty to the U.S. Constitution, that “revered instrument” which enumerated and delimited the powers of his office. One man’s fealty is another man’s license, however, for in his first annual message to the Congress on December 6, 1825, Adams issued a rousing call for a national observatory and the creation of a position similar to the aforementioned National Astronomer. Said Adams:

It is with no feeling of pride as an American, that the remark may be made that on the comparatively small territorial surface of Europe there are existing upward of 130 of these light-houses of the skies, while throughout the whole American hemisphere there is not one. If we reflect for a moment upon the discoveries which in the last four centuries have been made in the physical constitution of the universe by means of these buildings and of observers stationed in them, shall we doubt of their usefulness to every nation? And while scarcely a year passes over our heads without bringing some new astronomical discovery to light, which we must fain receive at second-hand from Europe, are we not cutting ourselves off from the means of returning light for light, while we have neither observatory nor observer upon one half of the globe, and the earth resolves in perpetual darkness to our unsearching eyes.

Adams foreshadows themes that will be present in later shakedowns of the public treasury for scientific research. First of all, Europe is doing it! This argument can cut both ways. Sometimes the speaker will appeal to American exceptionalism by urging his countrymen not to follow the example of the decadent old continent; at other times, as in Adams’s address, the appeal is made to national pride to catch up to Europe, to show those haughty royalists that republican and democratic Americans are just as capable as the toffs and serfs of the Old World.

A second theme limned by Adams is that of missed opportunity, which often — though not in this case — is tinged with the hint of potential catastrophe. The mysteries of the universe are unrevealed unless and until the taxpayers of the states shell out for a national observatory. Our “unsearching eyes” condemn us to “perpetual darkness,” and we all know that dangers lurk in the dark. The problem is that the lethargic and incurious Americans are not at the “curse the darkness/light a candle” stage. They actually seem comfortable in the darkness, or at least they are unwilling to take the administrative steps necessary to erect a great lighthouse of the skies whose beacon, coincidentally, will shine from and upon the capital city of the new country.
This was the centerpiece of President Adams’s ambitious plan to place the federal government in a lead role in the cultivation and promotion of scientific knowledge. Other new activities the president urged upon the national government included a national university, a naval academy to complement the military academy at West Point, and a wide array of “internal improvements,” i.e., the federal sponsorship of roads, bridges, and canals.

The Adams proposal received a favorable report from a House committee but no action was taken in the full House. He was mocked for his poetic phrase “light-houses of the skies.” As President Adams learned, never use poetry in a political speech when a prosy platitude will suffice.

The odd thing was that Adams had, just two years earlier, indicated an alternative path to the comprehension of the heavens when he “offered to give a thousand dollars towards the establishment of an observatory at Harvard University.” Harvard would, in time, build from private monies an observatory whose work was a brilliant blazing sun in comparison to the later government observatory’s unprepossessing ort of dust. But when tax revenue is at your fingertips, spending it seems essential.

Attorney General William Wirt and Secretary of State Henry Clay both had constitutional objections to Adams’s grand vision of a federal government that endows a national university and observatories. Moreover, voters were unenthusiastic for fear that this portended, says author A. Hunter Dupree, “consolidated government, monarchy, and tyranny.”

“The bold attempt to assert the constitutionality of central scientific institutions and to tie them to a vigorous exercise of power by the central government had failed resoundingly,” continues Dupree in Science in the Federal Government: A History of Policies and Activities to 1940 (1957). Nevertheless, despite the lack of legislative support, a naval observatory eventually came into being as an adjunct to the navy, which pleaded for help in timekeeping and weather forecasting.

Indeed, the city of Washington got its observatory in what would prove to be the time-tested method: via the military. Specifically, the navy, whose Lieutenant James M. Gillis put in herculean work nights in the late 1830s to record all manner of celestial phenomena: the movements of the planets, the stars, the moon, and transits across the surfaces thereof by other bodies. His observations and those of his assistants, which were conducted in a small building on Capitol Hill, so impressed the Navy that its secretary requested of President Tyler and Congress in 1841 the appropriation of funds to build an observatory — though the word used was “depot,” which sounded much more functional and utilitarian — for these vital observations.
A bill to do that passed in the last hour of the 1841–42 session, and so on August 31, 1842, the construction of the Depot of Charts and Instruments was mandated by law. This was an observatory in all but name, and in fact when the clouds cleared the depot was renamed the United States Naval Observatory and Hydrographical Office. The latter office was split off, and so, after decades of dreaming, John Quincy Adams had his government-subsidized light-house of the sky: the United States Naval Observatory.

Adams said, somewhat puckishly, that he was “delighted that an astronomical observatory — not perhaps so great as it should have been — had been smuggled into the number of institutions of the country, under the mask of a small depot for charts.”13

Dissimulation, dissembling, deception: no matter how it had been accomplished, the federal government had its observatory.

Now, at the same time that Adams and company were lobbying so heavily for a taxpayer-subsidized observatory, private observatories were springing up at Western Reserve College (1838), Harvard College (1839), Philadelphia High School (1840), and most startlingly, in Cincinnati. By 1882, the United States boasted 144 astronomical observatories, almost all of them nongovernmental.

The Naval Observatory would enjoy its salad days under the directorship of Simon Newcomb (1835–1909), a Canadian-born publicity genius who wrote popular books on astronomy and assembled a “large staff of assistants” courtesy of the federal government.14 But the real action would be far outside the walls of government science, and it would be the work of the dynamic pairing of energetic astronomers and philanthropic capitalists. But more on that in a bit.

Smithson’s Gift

British chemist James Smithson’s bequest upon his death in 1829 that after his third nephew died he would leave “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,” caused a great debate, in part over whether or not the government could even accept such a gift.15 It’s not that Americans were disposed to look an English gift horse in the mouth, it’s just that they wondered if Smithson’s legacy might also include the key to Pandora’s box. In any event, Smithson’s bequest was accepted in the Senate by a vote of 31–7 while the House voted 115–8 against a motion to return Smithson’s money.
John Quincy Adams, as usual, was at the center of the debate. Adams, who served in the U.S. House of Representatives after his single term in the White House, was chairman of the committee to which the presidential message announcing Smithson's bequest was referred. He thought that the money might be used for the “establishment of an Astronomical Observatory, with a salary for an astronomer and assistant, for nightly observations and periodical publications; annual courses of lectures upon the natural, moral, and political sciences.” Said Congressman Adams, “There is no richer field of science opened to the exploration of man…than astronomical observation.” He was nothing if not single-mindedly stubborn. Congressman Adams also knew what he did not want: “Above all no jobbing, no sinecure, no monkish stalls for lazy idlers.” What he would have thought of the National Endowment for the Humanities we leave up to the imagination of the reader.

For the next five years, Adams did what he could to steer some of Smithson’s money toward the construction of a lighthouse of the sky. He wrote letters, he testified, he introduced bills, he even invited the advice of George Airy, the Astronomer Royal of Great Britain and director of the observatory at Greenwich, and a snooty character sure to repel those Americans who had not forgotten that their country had fought two wars against England over the last 60 years. In 1840, Adams, in “a display of much learning and some rhetoric,” instructed the House in the history of astronomy from Genesis until 1839. No one ever said the old man was not pedantic.

Adams was still in the House when in 1846 the Smithson monies were distributed. Not a penny went to build an astronomical observatory.

It might do us good to listen to the far-off voices of those who did not want Mr. Smithson’s money. They will strike our ears as odd, but they were very much part of the constitutional chorus.

Rep. John Smith Chipman (D-MI) asked in April 1846, “How did it happen that this Government accepted such a boon from a foreigner — an Englishman, too. He looked upon it as a stain on the history of the country, as an insult to the American nation. He wished this Government to wash its hands of all such eleemosynary dealings. There was a native stock in this country, intellectual and physical, that needed no foreign aid, and he trusted in God it would not condescend to receive any. He objected to the bill, because, clearly and in terms, it established a corporation. He appealed to his political friends, after all their opposition, after all their arguments, after all their efforts to put down a United States Bank on the ground of its unconstitutionality, whether — tickled, amused, their pride touched by the great advantages of dispelling the
cloud of ignorance which overshadowed the American Republic — they would now belie all their principles and their professions?”

Five days later, Rep. Alexander D. Sims (D-SC) took off after Smithson. “He saw in the will of that individual what he had seen in the wills of many other men. After having griped, through their lives, every shilling that came into their hands, animated at last by some posthumous vanity, they sought to build up a name, which should live after them; and such, rather than any feeling for humanity, so much lauded, was the motive that guided them. In the present case he saw abundant evidence of this disposition in the appointment of the Government of the United States as a trustee to carry out this splendid vanity.” Sims also insisted that “There was no grant of power in the Constitution admitting” the “exercise” of the “administration of charities.” He proposed to return the money to the British chancery. Thanks but no thanks, said Sims. Not if the cost were the Constitution.

Rep. Andrew Johnson (D-TN), the future president, “replied that he objected to the whole principle of the measure, and that he would send the money back to the source from whence it came.” Coincidentally, the future President was answered by another future President, Jefferson Davis, who argued that “The Government was bound, after solemnly accepting the trust, to execute it faithfully.”

It took ten years for the Congress to reconcile itself to Smithson’s gift, but it did. Yet in the early 19th century, while presents might be accepted, not every petitioner for federal subsidy received a check. Washington knew how to say no. It could say no even to the most fantastic among the supplicants and the dreamers. It could say no to the forerunners of our 21st century Killer Asteroid/Let’s Colonize Mars crew.

Take, for instance, Captain John Cleves Symmes, Jr. and his apostle Jeremiah N. Reynolds.

Symmes, a brawler who had distinguished himself for bravery in the War of 1812, was thought by some to be a nut but he was also called “a man of decided ability, and a bold and original thinker,” by P. Clark in the pages of the *Atlantic Monthly*. The duo of Symmes and Reynolds collaborated in propagating one of the wildest scientific speculations of the early American republic: to wit, that the Earth is hollow. It is composed, said Symmes, of five concentric spheres at the center of which is a hollow core. Apertures at the poles led to this center, and in fact a traveler “might pass from the outer side of the earth over the rim and down upon the inner side a great distance before becoming aware of the fact at all.” As evidence, Symmes pointed to reports from explorers of