

# Literature review on benjamin franklin scientist and inventor

[Literature](#), [Biography](#)



Benjamin Franklin: The Autobiography and Other Writings is a very important text in both American History and Literature. Most often heralded as a document produced by, and about, one of the most important of the Founding Fathers, it is also a work that employs several literary devices and introduces many of the values that remain at the center of American culture. In his book, Franklin offers a way to live ones life, which is, interestingly enough, the way he lives his life. The book also has a section entitled, “Franklin The Scientist” which contains a series of letters which document his experiments and successes in science and technology. Indeed, Franklin invented many things as a scientist. And further, through an almost scientific study of his own life and values system, and through his writing, Franklin creates perhaps his most important invention: himself.

“ Benjamin Franklin’s most enduring inventions” include the Glass Armonica, a musical instrument later used by composers including “ Bach, Beethoven, and Strauss who all made music for the armonica specifically;” bifocals; the lightning rod (see below); the Franklin stove; the map of the Gulf Stream (indeed, the discovery of the Gulf Stream); and the odometer (VanHermert).

Franklin wrote his biography in the eighteenth century, and the English language he employs is indicative of the English used in that period of colonial America. He was a well-read and self-educated man, and this fact is manifest in the complexity and nuance of his words. As a boy, he read as much as he could, including “ Locke’s On Human Understanding, and The Art of Thinking by Messrs. du Port Royal (Lemisch 30). He especially enjoyed reading Shaftsbury and Collins, which, he writes, made him:

a doubter, as I already was in many points of our religious doctrines, I found this method the safest for myself and very embarrassing to those against whom I

used it; therefore, I took a delight in it, practised it continually, and grew very

artful and expert in drawing people, even of superior knowledge, into concessions

the consequences of which they did not foresee, entangling them in difficulties

out of which they could not extricate themselves, and so sustaining victories that

neither myself nor my cause always deserved. (Lemisch 31)

This passage is significant in several ways. First, one can observe Franklin employing the vocabulary, spelling and syntax of eighteenth century English. Second, he reveals his rhetorical style – perhaps best described as a general and strategic skepticism – which he states he uses in real life. This invites the reader to ask if he/she is also the “target” of Franklin’s above-described rhetorical method. Lastly, he ends with humility. This has the effect of taking the sting out of what comes across earlier as a rather overblown sense of himself and his talents.

Franklin’s interest in science came from his beliefs in reason and rationalism. He was a product of The Age of Enlightenment, and as such, believed that

knowledge was obtained through reason, rather than revelation and faith. “ The answer is that Franklin was indeed a man of the Enlightenment” He possessed an “ optimism about the technological conquest of nature” and sought “ a fully secular society governed by the dictates of reason alone” (Weinberger). Franklin’s devotion to reason is perhaps most humorously revealed in his account in the first part of *The Autobiography* of what happened on his first trip from Boston to Philadelphia. At this point in his life, Franklin practiced a strict vegetarian diet. He held fast to a “ resolution to eat nothing that had had life.” Aboard the ship to Philadelphia, however, he observed other passengers and crew catching and feasting on cod and was tempted by the smell of the fish “ hot out of the frying pan.” For Franklin, reason intervened, and soon he was eating the cod as well:

I balanced some time between principle and inclination till I recollected that when the fish were opened, I saw smaller fish taken out of their stomachs. “ Then,” thought I, “ if you eat one another, I don’t see why we mayn’t eat you.” So, I dined upon cod very heartily. So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for everything one has a mind to do. (Lemisch 48-49)

Perhaps the most famous and powerful evidence of Franklin’s devotion to reason is his study of electricity and the invention of the lightning rod. In the pre-Enlightenment world, humans mostly turned to religion and its dictates

to explain the natural world. A thunderstorm, then, was a phenomenon produced by an angry god punishing the earth's inhabitants. Franklin, on the other hand, employed reason and sought a scientific explanation for lightning and thunder. " Even more important, Franklin's writings mark his energetic participation in the cultural shift by which religious belief and belonging—along with other forms of belief and belonging—were transmuted into interests. The emergence of what I will call interest-thinking is an important feature of civil society, and Franklin, I argue, was probably its most appealing and influential stylist in the United States" (Glazener).

Franklin's experiments with static electricity and the famous kite and key experiment during a thunderstorm are well-documented in Benjamin Franklin (Lemisch 226-233). Franklin understood that friction built up an electrical charge which was then released, in the form of a spark (or lightning), when contact was made with an object without the electrical charge. Today, of course, children (and adults, too) re-enact this experiment by walking on carpet while wearing socks and then touching a companion's finger and observing the spark created by the exchange of electricity. Franklin, through what he learned in his experiments with static electricity, then extrapolated that the same phenomenon was occurring with clouds and columns of air during a thunderstorm. This led to his famous kite and key experiment which is chronicled by the English chemist Joseph Priestly in Benjamin Franklin:

The Doctor [Franklin], having published his method of verifying his hypothesis concerning the sameness of electricity with the matter of

lightning when it occurred to him that by means of a common kite he could have better access to regions of thunder he observed some loose threads of the hempen string to stand erect and to avoid one another. Struck with this promising appearance, he immediately presented his knuckle to the key, and the discovery was complete.

He perceived a very evident electric spark. (Lemisch 232-233). Thus, Franklin established that lightning was a natural phenomenon, understood through reason and experimentation.

The practical results of Franklin's discovery of the true nature of lightning were extremely significant for colonial America. Because of the plentiful forests that dominated the North American continent in the eighteenth century, the primary material for construction was wood. Lightning strikes caused many fires, sometimes consuming almost entire cities. Franklin's new-found knowledge led directly to his invention of the lightning rod which solved the fire problem. He published his instructions on "How to Secure Houses from Lightning" in Poor Richard's Almanac in 1753:

The method is this: Provide a small Iron Rod of such a length that one End being three or four Feet in the moist ground, the other may be six or eight Feet

above the highest part of the building. A house thus furnished will not be damaged by lightning, it being attracted by the Points, and passing thro' the Metal

into the Ground without hurting any Thing. (Lemisch 233-4)

It is interesting to note, that Franklin also created the first public fire department, in Philadelphia, while at the same time eliminating one of the primary causes of fires.

Franklin, as well as most of the other Founding Fathers, brought their commitment to reason and rationality to the political sphere as demonstrated most significantly in The Declaration of Independence. One lesser known example of Franklin's application of reason to an important public issue is how he came to be against slavery, and indeed, to found the first abolitionist society in Pennsylvania. The anti-slavery movement, from its inception through the Civil War, relied primarily on morality and religion to argue the evil of the institution of slavery. The abolitionist movement was primarily centered in churches. Franklin, a rare church attendee, came to his oppositional stance toward slavery through rational, empirical means. "A clear example of Franklin's approach to life and philosophy was his decision to support abolition. Franklin helped to found the Negro School of Philadelphia. In 1763 he visited the school and, as far as he was concerned, found proof that blacks were equal to whites in intellectual ability.

He became an abolitionist and the president, in 1787, of the Pennsylvania Society for Promoting the Abolition of Slavery and the Relief of Free Negroes Unlawfully Held in Bondage" (Sheldon 117-118).

As stated above, perhaps Franklin's greatest invention was himself. By writing his autobiography, he was creating the figure of Benjamin Franklin, a

man whose mythic status in the American story is perhaps unrivaled. He employs some interesting formal techniques in accomplishing this end. The first and largest section of *The Autobiography* is written as a letter to his son. Whether or not it was an actual letter or not is irrelevant. What is important is that sets his story up as authentic by way of this intimate formal device. And yet, throughout the book, Franklin displays a self-consciousness about his undertaking which reveals that he is perhaps deliberately creating a “Benjamin Franklin” for the ages. The *Autobiography* tells the story of a young man who flees the confines of his life in Boston and arrives in Philadelphia where he proceeds (as the book demonstrates) to make himself into “Benjamin Franklin.” His consciousness of his inclination to “invent himself is demonstrated in the following passage:

In order to secure my credit and character as a tradesman, I took care not only to be in reality industrious and frugal, but to all avoid appearance of the contrary. I dressed plain and was seen at no places of idle diversion. I never went out fishing or shooting; a book, indeed, sometimes debauched me from my work, but that was seldom, snug and gave no scandal; and to show that I was not above my business, I sometimes brought home the paper I purchased at the stores, thro’ the streets on a wheelbarrow.

(Lemisch 78)

This passage clearly reveals that Franklin views appearance as being more important than reality. He demonstrates throughout the book that he is almost obsessed with his public image and wants to present a life and lifestyle that is exemplary. He includes a letter apparently written by Benj.



Vaughn of Paris to Franklin in which Vaughn lavishes endless praise on Franklin and implores him to share his story with posterity so that future generations will know how to live their lives. Indeed, Franklin provides a list of virtues for people to adhere to, and, of course, Franklin asserts that these virtues arose from his contemplation of his own very reasonable life.

So, Franklin, great statesman that he was, was also a product of The Age of Enlightenment and a firm adherent to reason and rationality. This drove him to science, rather than religion, for explaining the world and his life as a scientist and inventor. In the end, though, The Autobiography reveals that perhaps Franklin's greatest invention was himself.

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