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Voltaire, "Chancellor Bacon"

From Voltaire's *Letters on England*

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It is not long since the ridiculous and threadbare question was agitated in a celebrated assembly; who was the greatest man, Cæsar or Alexander, Tamerlane or Cromwell? Somebody said that it must undoubtedly be Sir Isaac Newton. This man was certainly in the right; for if true greatness consists in having received from heaven the advantage of a superior genius, with the talent of applying it for the interest of the possessor and of mankind, a man like Newton—and such a one is hardly to be met with in ten centuries—is surely by much the greatest; and those statesmen and conquerors which no age has ever been without, are commonly but so many illustrious villains. It is the man who sways our minds by the prevalence of reason and the native force of truth, not they who reduce mankind to a state of slavery by brutish force and downright violence; the man who by the vigor of his mind, is able to penetrate into the hidden secrets of nature, and whose capacious soul can contain the vast frame of the universe, not those who lay nature waste, and desolate the face of the earth, that claims our reverence and admiration.

Therefore, as you are desirous to be informed of the great men that England has produced, I shall begin with the Bacons, the Lockes, and the Newtons. The generals and ministers will come after them in their turn.

I must begin with the celebrated baron Verulam, known to the rest of Europe by the name of Bacon, who was the son of a certain keeper of the seals, and was for a considerable time chancellor under James I. Notwithstanding the intrigues and bustle of a court, and the occupations incident to his office, which would have required his whole attention, he found means to become a great philosopher, a good historian, and an elegant writer; and what is yet more wonderful is that he lived in an age where the art of writing was totally unknown, and where sound philosophy was still less so. This personage, as is the way among mankind, was more valued after his death than while he lived. His enemies were courtiers residing at London, while his admirers consisted wholly of foreigners....

The most singular, as well as the most excellent, of all his works, is that which is now the least read, and which is at the same time the most useful; I mean his "*Novum Scientiarum Organum."* This is the scaffold by means of which the edifice of the new philosophy has been reared; so that when the building was completed, the scaffold was no longer of any use. Chancellor Bacon was still unacquainted with nature, but he perfectly knew, and pointed out extraordinarily well, all the paths which lead to her recesses. He had very early despised what those square–capped fools teach in those dungeons called *Colleges,* under the name of philosophy, and did everything in his power that those bodies, instituted for the cultivation and perfection of the human understanding, might cease any longer to mar it, by their "quiddities," their "horrors of a vacuum," their "substantial forms," with the rest of that jargon which ignorance and a nonsensical jumble of religion had consecrated.

This great man is the father of experimental philosophy. It is true, wonderful discoveries had been made even before his time; the mariner's compass, the art of printing, that of engraving, the art of painting in oil, that of making glass, with the remarkably advantageous invention of restoring in some measure sight to the blind; that is, to old men, by means of spectacles; the secret of making gunpowder had, also, been discovered. They had gone in search of, discovered, and conquered a new world in another hemisphere. Who would not have thought that these sublime discoveries had been made by the greatest philosophers, and in times much more enlightened than ours? By no means; for all these astonishing revolutions happened in the ages of scholastic barbarity. Chance alone has brought forth almost all these inventions; it is even pretended that chance has had a great share in the discovery of America; at least, it has been believed that Christopher Columbus undertook this voyage on the faith of a captain of a ship who had been cast by a storm on one of the

Caribbee islands. **Be this as it will, men had learned to penetrate to the utmost limits of the habitable globe, and to destroy the most impregnable cities with an artificial thunder, much more terrible than the real; but they were still ignorant of the circulation of the blood, the weight and pressure of the air, the laws of motion, the doctrine of light and color, the number of the planets in our system, etc…**

The most wonderful and useful inventions are by no means those which do most honor to the human mind. And it is to a certain mechanical instinct, which exists in almost every man, that we owe far the greater part of the arts, and in no manner whatever to philosophy. The discovery of fire, the arts of making bread, of melting and working metals, of building houses, the invention of the shuttle, are infinitely more useful than printing and the compass; notwithstanding, all these were invented by men who were still in a state of barbarity. What astonishing things have the Greeks and Romans… done in mechanics? Yet men believed, in their time, that the heavens were of crystal, and the stars were so many small lamps, that sometimes fell into the sea; and one of their greatest philosophers, after many researches, had at length discovered that the stars were so many pebbles, that had flown off like sparks from the earth.

In a word, there was not a man who had any idea of experimental philosophy before Chancellor Bacon; and of an infinity of experiments which have been made since his time, there is hardly a single one which has not been pointed out in his book. He had even made a good number of them himself. He constructed several pneumatic machines, by which he discovered the elasticity of the air; he had long brooded over the discovery of its weight, and was even at times very near to catching it, when it was laid hold of by Torricelli. A short time after, experimental physics began to be cultivated in almost all parts of Europe. This was a hidden treasure, of which Bacon had some glimmerings, and which all the philosophers whom his promises had encouraged made their utmost efforts to lay open. We see in his book mention made in express terms of that new attraction of which Newton passes for the inventor. “We must inquire,” said Bacon, “whether there be not a certain magnetic force, which operates reciprocally between the earth and other heavy bodies, between the moon and the ocean, between the planets, etc.” In another place he says: “Either heavy bodies are impelled toward the centre of the earth, or they are mutually attracted by it; in this latter case it is evident that the nearer falling bodies approach the earth, the more forcibly are they attracted by it. We must try,” continues he, “whether the same pendulum clock goes faster on the top of a mountain, or at the bottom of a mine. If the force of the weight diminishes on the mountain, and increases in the mine, it is probable the earth has a real attracting quality.”

This precursor in philosophy was also an elegant writer, a historian, and a wit. His moral essays are in high estimation, though they seem rather calculated to instruct than to please; and as they are neither a satire on human nature… nor a school of skepticism… His life of Henry VII passed for a masterpiece….