

# **TEN BOOKS THAT SHAPED THE WORLD**

**By**

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I was recently asked to name the ten books that had most shaped the world. Not the ten books that I personally liked best, but the ten books that most influenced humanity and its march towards progress, and the creation of what we call civilization.

The question is not as simple as one would imagine. For it is easy to draw up a long list of important books, much harder to distill them to only ten. I did, and before I share the list with you, I think that I must explain my selection criteria... So here goes:

In terms of influence on humans, nothing has come close to religious texts. So my selection from the holy books of Islam, Christianity and other religions seemed straightforward. Here I decided to just go by the number of adherents to these faiths and stop after the top three. So the Bible (ca. 2.3 billion), the Quran (ca. 1.4 billion) and the Vedas of Hinduism (ca. 735 million) top the list. The teachings of the Buddha did not quite make it with some 450 million declared Buddhists in the world.

I then looked at the secular traditions and picked from science and philosophy, given that science used to be known as natural philosophy. Here the choices were much more difficult. Mindful of the idea that we are measuring influence, I thought that the works of Aristotle must top that group on the list, since he dominated both antiquity and much of the middle ages, influenced Muslim philosophers, and we still owe him the articulation of the precepts of logic, which we use in science and philosophy to this day.

My next choice was easy: Euclid and his *Elements*, the foundation of axiomatic mathematics, and the basis of much of geometry and the single most taught scientific text, largely unchanged for over 2200 years! So that great scientist from the ancient Library of Alexandria easily makes the cut.

The next choice was much harder. The contributions of Ibn Al-Haytham in establishing the scientific method at the end of the tenth century CE could be a candidate. So could the works of Al-Khwarizmi in mathematics, Ibn Sina in medicine, or Ibn Khaldun in sociology and history or those of Ibn Al-Shater in Astronomy. But I felt that these great figures, pioneers and visionaries each and every one, due to certain accidents of history, did not get to have the ongoing and expanding influence

that they deserved and that some of the other historical great figures did get.

I was tempted to bring the Indian inventor of the zero, which made place keeping possible and allowed the decimal system of notation to take hold. No mean achievement, and one is tempted to say that it deserved a mention. A major revolution occurred when the Arabs adopted the Indian numerals and then passed them on to the Europeans where they were known as Arabic numerals. But that could qualify as an invention, a discovery or both, hardly a full “book” in the sense that we think of a book. Other great inventions from papyrus to paper to printing might have also qualified, but this is about a list of books.

So back to the books. Moving chronologically to the birth of the scientific revolution which came after the renaissance, I ended up selecting Galileo’s *Dialogue of the Two World Systems*. Now it is true that it was Copernicus, and not Galileo, who did the revolutionary work of proposing a heliocentric system of the cosmos, one where the earth revolves around the sun not the other way around. In fact, Copernicus had drawn on the work of the Maragha School (Founded by Nasir Al-din Al-Tusi following the fall of Baghdad to Hulagu in 1258 CE) and on the mathematical critiques of Ibn Al-Shatir to discredit the cosmology of Claudius Ptolemy.

Ptolemy, it will be remembered, was a late Alexandrian scholar who had rejected the heliocentric model first proposed by Aristarchus in the third century BCE, in the early days of the Ancient Library of Alexandria. So momentous was that decision to reject the geo-centric model for a heliocentric one, and so vehemently did the church oppose it, that we must use it as a convenient marker for the end of the dark ages and the start of rationality in the face of dogma. That notion, that we can use our brain to evaluate the evidence and base conclusions on our observations or our logical deductions is truly crucial for freedom of expression and for liberating the human mind from the tyranny of dogma. It was essential for the enlightenment and the march towards scientific and technical progress.

But why Galileo and not Copernicus? Partly because few people have actually read the work of Copernicus. Galileo chose to frame his arguments in the form of a trialogue, or a play between three characters, in which the merits of the various cosmologies were questioned and discussed. He wrote in Italian, already made famous by Dante who was the first to break with the medieval tradition of writing in Latin and wrote *The Divine Comedy* in Italian. Galileo's trial is a touchstone of the confrontation between dogma and freedom of expression. And even though he was forced to recant,

the moral victory was his and the heliocentric system would prove unstoppable.

My next choice would seem to contradict that discussion. Newton's *Philosophiæ Naturalis Principia Mathematica* (Latin for “mathematical principles of natural philosophy”), often called simply *Principia Mathematica* or just the *Principia* for short, is a three-volume work by Isaac Newton published in 1687. It is a very difficult book to read, heavily mathematical, and it was written in Latin. But there are reasons that justify its inclusion in this and in any other such list. First, it marks a dividing line in history: before Newton, most people believed that there were no laws governing the universe, and if there were such laws, then they were beyond the ken of humans to understand them. After Newton, most people believe that there are laws governing the universe and that what we do not know or do not understand today we can, and probably will, sometime in the future, discover and understand them. That is a momentous shift in world view!

Furthermore, we live largely in a Newtonian world, the marvels of relativity and quantum physics notwithstanding. In much of our everyday experience the laws of motions and gravity postulated by Newton in his *Principia* still hold. Much of our mechanical

inventions in the 19<sup>th</sup> and twentieth century are based on Newtonian physics and mechanics.

Finally, Darwin. So powerful is the theory of evolution, whether proposed in gentle advances (as by Dawkins and others) or sudden jumps (the “punctuated equilibrium” suggested by Stephen Jay Gould and Niles Eldredge) it remains the overarching theory of biology. It explains how insects gain immunity to pesticides and how bacteria can become resistant to anti-biotics. Combined with Mendelian heredity, it explains all our domestication of plants and animals. It changed our perceptions of the living organisms with which we share the world.

Freud made signal contributions with his emphasis on discovery of the inner self, and Marx made major contributions to social sciences by bringing in the notion of dynamic analysis (first inklings of which are found in Ibn Khaldun). But Marx’s great influence is waning even in western academic circles. His political influence was largely due to the further work of Lenin and Marxism-Leninism was the fundamental theory of the communist countries. But neither has had the overarching influence of Darwin’s *Origin of Species*.

But humans are not about science, philosophy and religion only. There is art. Which books to choose from

the literary canon? Here after very little reflection, it was easy to go for *the Works of William Shakespeare* (the first folio). Of all the authors in all languages, only Shakespeare seems to be a truly universal genius whose works are translated in every language, and where generation after generation of artists go back to his plays for inspiration and to create their own versions of his insights. A Japanese Macbeth, a Russian Hamlet, and an Egyptian Lear, they are all possible and contemporary. Even Hollywood goes back to his plays again and again.

Other potential candidates would have been Cervantes *Don Quixote*, the *Arabian Nights*, or the children's stories of Perrault, or Andersen. But none really come close to the breadth, power and impact of the Shakespearean legacy.

That brings the total to nine books, and leaves only one. After reflection, I chose not a book per se (although it certainly is published in booklet form) but a document: *The Universal Declaration of Human Rights* (UDHR) adopted by the United Nations in 1948 and subsequently enshrined in various international treaties and covenants. The document is truly universal in its appeal and has changed our perceptions of ourselves and of our relationships to other human beings. It is the most powerful idea sweeping the world today, and

gives us a lens through which we see and analyze our actions and those of others elsewhere in the world. We are better, loftier people because of it. What more could we ask for?

So here is my list of the ten books that most shaped the world:

1. The Holy Bible
2. *The Holy Quran*
3. *The Vedas* of Hinduism
4. *The Organon* of Aristotle
5. *The Elements* of Euclid
6. *Dialogue Of The Two World Systems* Of Galileo
7. *The Principia* of Newton
8. *The Origin of Species* of Darwin
9. *The Works of William Shakespeare* (the First Folio)
10. The Universal Declaration of Human Rights

But others could come up with different lists. Why not increase the number of religious texts? Why not include Al-Bukhary's *Sahih* documenting the sayings of the Prophet Muhammad? There are no real answers to such questions. The real value of such an exercise is to do it for yourself. It is like revisiting with many

old and wonderful friends. Or it is like admiring the skill of many players as you try to assemble an all-star team. Preferences will vary, even among the most knowledgeable judges. But the effort you undergo in re-evaluating all these famous books, and seeing them in a new light is an education. The intellectual journey of selection is exhilarating. To pick up each candidate, each a jewel in its own right, admire it anew, study its many facets and then set it down and go to others is itself the important experience. Engaging in such an effort of selection is itself the end, not the means to develop whatever list you end up with. It is a journey of pleasure, joy and enlightenment. These are the gifts that all great books always bring us.