

Book Review

Ibn al-Haytham: The First Scientist by Bradley Steffens

“Truth will always prevail, and since Allah is the ultimate embodiment of the Truth, Allah will always prevail.” So was the philosophy of ibn al-Haytham. A true scientist, ibn al-Haytham pioneered scientific inquiry, experimentation, debate, and discussion. He emphasized that valid experimentation was necessary before any authentic conclusions could be reached.

Bradley Steffens in his recent biography of this great Muslim scientist gives him the credit of being the first true scientist of the human civilization. He states that ibn al-Haytham practiced and exemplified these ideals during his tumultuous life. That ibn al-Haytham was generations ahead of his time is evident when you read this lucid and fascinating biography. Steffens has a unique ability of a storytelling that makes the reading of his book as interesting as a spy thriller, unfolding the events in ibn al-Haytham’s life like the clues being discovered by a forensic detective. I was so fascinated by this rendition that I have yet to read a biography in a shorter time in my life. I finished the book from cover to cover in just under four hours!

The facts in this biography are collected from a variety of sources, and Steffens cites them at the end of the book. If the reader becomes interested in doing further research, there is plenty of material that he or she can get their hands on. However, Steffens admits that there are many missing pieces in the life story of ibn al-Haytham, and these will have to be “discovered” by other researchers. Despite these missing pieces, Steffens has put together the jigsaw puzzle in a very admirable way, always pointing out “what could have happened” during the missing phases, where we yet have no information.

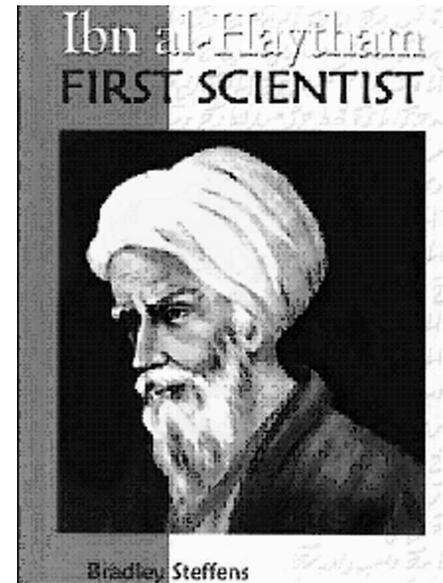
What is most impressive about the story is that it is written in a truly objective fashion, clearly pointing out the areas of fact from fiction and thus giving a sense of veracity to the narrative.

Steffens examines ibn al-Haytham’s life from the time of his birth in Basrah. This Iraqi city was a lively port in medieval times, especially at the turn of the first millennium. It was teeming with commerce,

social, and cultural life. This is where ibn al-Haytham spent his childhood. Basrah was located at a crossroads of many cultures, races, and religions, giving it a true cosmopolitan ambience. This was just the right environment for a flowering

genius like ibn al-Haytham. Steffens traces ibn al-Haytham’s early education with emphasis on theology and religious instruction. Initially, he was convinced that there was only one path to arrive at the truth. Yet the truth eluded him. This confusion was brought about by proliferation of multiple sects in Islam and the differences in the various tenets of Islamic beliefs between them. In addition, there were challenges brought about by the racial and political differences of the rulers, by the rise of orthodoxy, by a suspicion of science by the theologians, and by the rise of civil strife among the masses. The once-great Islamic empire ruled by one strong central command, and under one commander in chief “the caliph,” who was also the champion of “knowledge and science,” had weakened. There was a state of constant internal turmoil, recurring revolts, and petty wars. Regional rulers and factional chieftains rose to prominence. All these events were to affect ibn al-Haytham’s life.

Ibn al-Haytham, through his family resources, got appointed to a high position in the government, which gave him stable income and means of supporting his family. However it precluded him from pursuing his main ambition, which was to understand the writings of all the Greek masters and philosophers. He wished to study and translate the works of Euclid, Archimedes, Ptolemy, Apollonius, and



Aristotle. He decided that he had to leave his government position to enable him to achieve this, and it is stated that in order to achieve this he feigned insanity. Whether this was real or apocryphal is unknown. However, he did retire from his job so that he could pursue his life's ambition, which was the translation and in-depth study of original works of the Greek masters. This he did.

Bradley Steffens brings out the character of ibn al-Haytham as a humble and religious man, a seeker of truth who was thirsty for knowledge. He knew that scientific conclusion can be arrived at only by keen observation and experimentation. Steffens describes these experiments that ibn al-Haytham devised to arrive at sound conclusions, especially in the field of optics. He thus credits him to be the first true scientist. He is also quick to point out that not all of ibn al-Haytham's conclusions were accurate, and many had to be corrected by later scientists. Ibn al-Haytham did possess the spirit of challenging established concepts and ideas, as several of his works reflect.

Many of the pioneering works of ibn al-Haytham are cited in this book. These include:

1. *Kitāb al Manāẓir* (The Book of Optics). This book revolutionized the science of optics, the theory of vision and even the study of the anatomy of the eye. He devised many experiments to prove his viewpoints about light and vision. He gave a fairly detailed description of *camera obscura*, the predecessor of the modern camera. This device made many European Renaissance masters insert depth of field or three-dimensional effects in their lifelike paintings.

2. Books of engineering and measurement, such as "Determination of Altitudes," "Determination of

Heights," and "Principles of Measurement and Business Arithmetic."

3. Books of mechanics *viz.* construction of a water clock.

4. He travelled to Egypt to study building a dam across the river Nile, a task he could not accomplish but was later accomplished in the 20th century by construction of the Aswan Dam at the site that he had contemplated.

These and many more are discussed succinctly in Steffens's book.

This book is a must read for anyone who wishes to learn about a forgotten chapter in history and enjoys the true spirit of inquiry and is an eternal seeker of truth. It serves as a great bridge of understanding that human knowledge is a continuum, provided as a bounty of God and will continue to flow from Him, to enrich the experience of the human civilization as and when He deems it fit.

Submitted by

Husain Nagamia, MD, FRCS (Eng. and Edin.)

Chairman

International Institute of Islamic Medicine

Chief Emeritus

Department of Cardio Vascular Thoracic and Transplant Surgery

Tampa General Healthcare

Tampa, Florida

Past President of the Islamic Medical Association of North America

*This book can be purchased through the IIIM Bookstore:
<http://www.iiim.org/store.html>*