

Ismail Serageldin – 2005

QUOTES FROM OUTSTANDING ARAB SCHOLARS:

On accepting the contrarian View:

“When hearing something unusual, do not preemptively reject it, for that would be folly. Indeed, horrible things may be true, and familiar and praised things may prove to be lies. Truth is truth unto itself, not because [many] people say it is.”

--- Ibn Al-Nafis, (1213-1288 A.D.) *Sharh' Ma'na Al Qanun*.

On preferring the experimental method (evidence) over the authority of the ancients:

“He who searches for truth is not he who reviews the works of the ancients...[it is] he who follows argument and evidence, not the statement by an individual, who is inevitably affected by context and imperfection. It is the duty of he who reads science books, if he wants to learn truths, that he should set himself up as an opponent to all he looks at.. [accepting only what is supported by evidence and argument].”

--- Ibn Al Haytham, (965–c.1040) *Al Shukuk Fi Batlaymous*

On the experimental method:

[This is a truly amazing description of the modern scientific method, which was way ahead of its time! The last section is stunning, considering the hubris of Paul Broca and his supposedly accurate work on brain measurements centuries later!]

“We start by observing reality ... we try to select solid (unchanging) observations that are not affected by how we perceive (measure) them. We then proceed by increasing our research and measurement, subjecting premises to criticism, and being cautious in drawing conclusions... In all we do, our purpose should be balanced not arbitrary, the search for truth, not support of opinions.

Hopefully, by following this method, this road to the truth that we can be confident in, we shall arrive to our objective, where we feel certain that we have, by criticism and caution, removed discord and suspicion.

Yet we are but human, subject to human frailties, against which we must fight with all our human might. God help us in all our endeavors”.

-- Ibn Al-Haytham, (965–c.1040) *Kitab Al-Manadhir*.

Biographical Notes:

IBN AL-HAYTHAM or Alhazen [ālhuzen'] ,
(965–c.1040)

A distinguished Arab mathematician. Ibn al-Haytham was born in Basra, but made his career in Cairo, where he supported himself copying scientific manuscripts. Among his original works, only those on optics, astronomy, and mathematics survive. His Optics, which relied on experiment rather than on past authority, introduced the idea that light rays emanate in straight lines in all directions from every point on a luminous surface. Latin editions of the Optics, available from the 13th century on, influenced Kepler and Descartes. As a cosmologist, Ibn al-Haytham tried to find mechanisms by which the heavenly bodies might be shown to follow the paths determined by Ptolemaic mathematics. In mathematics, al-Haytham elucidated and extended Euclid's Elements and suggested a proof of the parallel postulate.

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IBN AL-NAFIS
(1213-1288 A.D.)

He was born in 607 A.H./1213 AD in Damascus. Ibn al-Nafis became a renowned expert on Shafi'i School of Jurisprudence as well as a reputed physician. After acquiring his expertise in medicine and jurisprudence, he moved to Cairo where he was appointed as the Principal at the famous Nasri Hospital. Here he imparted training to a large number of medical specialists. He also served at the Mansuriya School at Cairo. When he died in 678 A.H./1288 AD he donated his house, library and clinic to the Mansuriya Hospital.

His major contribution lies in medicine. His approach comprised writing detailed commentaries on early works, critically evaluating them and adding his own original contribution. His major original contribution of great significance was his discovery of the blood's circulatory system, which was re-discovered by modern science after a lapse of three centuries. He was the first to correctly describe the constitution of the lungs and gave a description of the bronchi and the interaction between the human body's vessels for air and blood. Also, he elaborated the function of the coronary arteries as feeding the cardiac muscle.

The most voluminous of his books is *Al-Shamil fi al-Tibb*, which was designed to be an encyclopedia comprising 300 volumes, but it could not be completed due to his death. Ibn Al-Nafis' works integrated the then existing medical knowledge and enriched it, thus exerting great influence on the development of medical science, both in the East and the West. However, only one of his books was translated into Latin at early stages and, therefore, a part of his work remained unknown to Europe for a long time.