History of Science

Abu Yusuf Ya'qub ibn Ishaq Al-Kindi

(801–873)

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Under the influence of final divine book Quran e majeed and explanations through acts and words of final Prophet of Allah Muhammad p.b.u.h. Sciences progressed with jet speed. The great emphasis on learning, research, honesty, hard work and lack of biases & greed provided the most optimum and fertile soil for growth of sciences and scientists. Numerous outstanding scientists were born in the most glittering civilization under Muslim dominance!

We are here introducing Abu Yusuf Ya'qub ibn Ishaq Al-Kindi, a famous Arab philosopher who was master of many different areas of thought. He belonged to the Arab tribe of Kinda, which had played an important role in the early history of Islam. His lineage earned him the title of "philosopher of the Arabs" among later writers. Although his services were eclipsed by other names in due course of time but he was held to be one of the greatest Islamic philosophers of his time. Yaqub Ibn Ishaq al-Kindi was born in Kufa, Iraq which was a notable place for learning in the 9th century. This was the ideal place for him to get the excellent education at that time. His father and grandfather had been the governor of Kufa. and their descendants continued to hold important court positions in Muslim times. As soon as he completed his studies in Baghdad he was patronized by al Ma'mun and al Mu'tasim who were Abbasid Caliphs. Al-Ma'mun had appointed him to work at a recognized centre for Greek philosophical and scientific texts translation in Baghdad known as House of Wisdom.

Al Kindi was also acknowledged for his gorgeous calligraphy and had also as a calligrapher. His fame and position had faded away after the accession of Al-Mutawakkil. After his death, his philosophical works fell into darkness and were even missing to later Islamic historians and intellectuals. -(Ref:<u>http://muslim-academy.com/master-muslims-</u> yaqub-al-kindi/#sthash.BUHyJ9YR.dpuf.) Yaqub Alkindi authored 244 books. He worked with a group of translators who extracted true knowledge from works of Aristotle, the Neoplatonists, and Greek mathematicians and scientists into Arabic. Being a philosopher, Al-Kindi goes on to explain that Allah is the "true one and only" since He is the cause of being and acts without being acted upon; all others are only "metaphorically" agents, because they both act and are acted upon.

It has been credibly argued that mathematics was fundamental to al-Kindi's own philosophical method (Gutas 2004, cf. Endress 2003), and certainly he missed no opportunity to apply mathematical techniques to what we would now think of as "scientific" topics. A good example of how al-Kindi applied mathematics to other fields is his use of geometry in optics (Lindberg 1971, Rashed 1997, Adamson 2006). He used geometrical constructions to explain phenomena such as visual perspective, shadows, refraction, reflection, and burning mirrors. He worked in the field of optics and explained the appearance of blue color in the sky. Aspects of al-Kindi's work seems to be a stimulus for Ibn al-Haytham, who some decades later would be the first to explain vision accurately.

The scientists also praise al-Kindi's for his most ambitious work on the physical sciences: a lengthy treatise entitled "On Rays" (de Radiis, D'Alverny and Hudry 1974) that's preserved only in Latin. There is some question as to its authenticity, but it seems plausible that On Rays represents al-Kindi's attempt to explain all physical interaction – from heating and cooling, to vision, to astral influence, to magical incantations – in terms of a fundamentally geometrical mechanism. (optical works, see Travaglia 1999.)

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He was a specialist in different fields of profession. His contribution in Philosophy was to make the Greek ideas more available and acceptable to the Muslim world. Moreover, he was a superior chemist and resisted the thought that base metals can be altered to valuable metals. In the field of mathematics, he wrote four volumes known as "On the Use of Indian Numerals" which helped to bring the Indian numeration system to the Muslim scientists who removed all inadequacies and perfected the use of Zero to the extent that absolutely new system was recognized as Arabic numbers! Without this Arabic number system science would not have progressed let alone mathematics! Muslims later invented decimal system and of course algebra! Kundi had written 22 books on medicine and philosophy each, 9 books on logic and 12 books on physics. Al-Kindi's power on expansion of science and philosophy was noteworthy in the revitalization of sciences in that time. During the Middle Age, Cardano believed that Al-kindi was one of the twelve supreme minds. His efforts led to advance progress of a range of subjects for years, especially physics, medicine and mathematics. Going through his writings it is quite plain that he refuted many Greek mythology concepts in the light of Quran e majeed; a fact not brought to the surface by European writers while writing about him. Kindi establishes both the purity and far more superiority of divine messages and revelations brought by the true messengers of Allah over theories of philosophers who may or may not reach to the right conclusions! A substantial work on this was later carried out by Imam Ghazali.

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