

## The House of Wisdom: How the Arabs transformed Western Civilization (By Jonathan Lyons, 2009)

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We are forever indebted to the lack of credit offered towards the contribution of Islam's golden age to modern day life. As we find ourselves educated in the west, little mention of great intellectuals during the middle age is ever made. This was the time of the Muslim world as an intellectual, cultural and economic superpower.

Built by Caliph Al-Mansur in the eighth century during the Abbasid caliph, The House of Wisdom (Beit al-Hikmah) in Baghdad formed an incubator for the development of the region as a powerhouse. During this time, it developed a reputation as a translation bureau, think tank and book repository of over four hundred thousand books. Here, the early triumphs of the Greek, Persian, Indian and Chinese thinkers were translated into Arabic in the first department where they formed the foundations of the great works of this era. In translating these texts, astronomical leaps in science were achieved via the work of Al-Khwarizmi, who developed the astrolabe, algebra and star tables, Ibn-Sina and Al-Razi whom permanently changed the perception and approach of Medicine, Pharmacy and apothecary, contributing significantly to their respective fields and Abu al-Walid ibn Rushd (Averroes), the Muslim philosopher who's commentary on Aristotle contributed to the shaping of western thought.

In a passionate and sophisticated discussion regarding The House of Wisdom, Jonathan Lyon's book walks the reader through the fascinating journey of time and the transfer of knowledge to the West. During this empowering and emotional journey, he also especially mentions key figures including Adelard of Bath, the early pioneer of Arab teaching whom dedicated many years learning the prestigious Arabic language in Antioch, modern-day Turkey, to translate the work of Al-Khwarizmi and other great philosophers to bring geometry, astrology, astronomy and other fields to the medieval west. Michael Scot is also mentioned, one of the greatest intellectuals of his time, serving as court astrologer and science advisor to the Emperor Frederick II as he translated the work of Aristotle and Averroes from Arabic back to English.

Lyons dedicates this publication to his father and introduces the reader to the West's debt to medieval Arab civilisations. Lyons' tribute also honours his father's introduction to the 'power of ideas', carrying through as the underlying narrative throughout the piece. In paying homage to the success of the Arab scholars in their ability to determine the times of the five Muslim daily prayers via the continuously changing pattern of night and day, the book follows the structure of the Islamic day. The book begins at al-Maghrib prayer (sunset) as the start of the day and relevant time period, then continues to walk the reader through the history of time until al-Asr (afternoon) where he marks the "end of the Age of Faith in the West and the seemingly unstoppable triumph of reason" in the 17th century.

Given the dense history discussed in the book, Lyons introduces and reminds the reader of several key facts, definitions and distinctions. In his note to readers, given that Arabic was the global language for science, and cultural labels were much more fluid during this magnificent era, Lyons establishes his reasoning behind describing developments of the time as 'Arab science' rather than 'Islamic Science'. In addition, in order to further establish the need to avoid the term 'Islamic sciences', Lyons highlights the immediate connotation with Hadith and Sunnah in this section and devotes an entire chapter to the relationship between faith and reason. Though seemingly unnecessary, his distinctions allow the reader to appreciate the contributions of those whom were not ethnically Arab nor Muslim, highlighting the cultural movement as a force of gravity at the time.

The book is to present the enormous impact of Arab learning on the west – that is, on the lands of medieval Christendom and the states and societies they later produced. As a result – he deemed it sensible to use the Latinised forms instead of the Arabic names in the case of the figures widely known to the western world thereby catering for the western world to understand the history and context of this era.

Further support to the novice and expert reader is offered through the mention of two short but significant sections; A chain of significant events and leading figures. Considering the level of detail in this book, these two sections were by the far the most referred to throughout reading. In the former section, Lyons outlines the most important events surrounding and including the House of Wisdom, though some of the dates are approximate in this section, the details are to be found in the narrative that follows. Ultimately the scene is set in this four page section. The scene setting begins well before the beginning of this era starting with the Prophet Muhammad (Peace be upon him) leading the migration (Hijra) in 622, proceeding to present the series of conquests and collaborations that led to the formation of the House of Wisdom and its downfall. The book then continues until 1687 when Isaac Newton's theory of gravitation 'completes' the Copernican revolution, establishing the pre-eminence of science in the western world. Whilst this section provides a mere synopsis, it provides a clear picture of how "The House of Wisdom" fits in time. Complementary to the former section, is the latter, whereby figures central to the rise of Arab science and its reception in the west are listed, from Adelard of Bath to Abdullah Al-Mamun. Here, the clarity to the stories within this book is further emphasized.

In the first main section of the book - prologue (Al-Maghrib), Lyons provides further background to the story prior to the start of Part 1. Though the author seems to jump between various time points, he provides an insight into the development of a great struggle between faith and reason in Europe crashing down on an unsuspecting Europe, all whilst the arrival of Arab science and philosophy empowered the Arab region and propelled their contribution to the world we know today. For it was the ability of great philosophers and thought leaders such as Avicenna, Al-Khawarizmi and Al-Idrisi that enabled such a formation of a scientific and technological superpower. The passionate introduction of key concepts is followed by the admiration of the adventurer, Adelard of Bath whom harnessed the power of Arab learning to shape the intellectual landscape in Europe which carried well beyond his time and ultimately the ground-breaking work of Copernicus and Galileo in the 16th Century. Finally, a reference to medieval English philosopher Roger Bacon is made, who whilst was a proponent of the scientific method and praised the Muslims for their intellectual innovations, also denounced various aspects of Muslim life without much real knowledge or experience. Some aspects of his opinions planted the seed for the shift away from recognition of the significant contributions of the Arab science. These opinions unfortunately gained further currency in the renaissance when the west were increasingly idealising notions of classical Greece allowing for greater focus on the works of Aristotle, Pythagoras and Archimedes. Much of which is the same in modern day education.

Once the scene is set, the book structures itself in four parts. As the reader is taken through the day in Part 1 (Al-Isha/nightfall), Lyons discusses the potent Christian propaganda reflected by the First Crusade as a display of poor western knowledge of Islam and its teachings. This imbalance between the portrayals of Islam compared to its reality in the Middle East ultimately led Adelard of Bath to begin his voyage alone into the Arab region, capitalising on the knowledge of the Abbasid scientists in the House of Wisdom. Such opportunistic perspectives differentiated the views of the Western elite to Pope Urban II in Rome whom initiated and led the First Crusade, considering it a Holy war against the Muslims.

By part two of this book, the authors detailed description of the stories involved in the creation of The House of Wisdom truly inspires, starting the chapter by laying the foundations of its story with Abu Jaffar Al-Mansur, the second Abbasid caliph. This was then followed by the reign of Caliph Al-Mamun, the enthusiastic promoter of science and arguably one of the most central figures in the propulsion of the House of Wisdom into the powerhouse it became, investing significant financial means and resources. The incredible developments are countless though a notable mention should be made towards the development of the map of the world and the efforts towards guiding Muslims to the correct Qibla. Using the work of Ptolemy, an Egyptian astronomer, geographer and mathematician of Greek descent, his table of eight thousand city coordinates complemented Al-Mamun's astronomers and geographers whom unlike medieval Christendom, noted that Islam provided no resistance towards the notion of the Earth being spherical in shape. Using the newly acquired direction, Al-Mamun's geodetic survey of the desert plains of Sinjar, Ptolemy's work, geometry and trigonometry, determination of the Qibla was achieved with extraordinary accuracy, especially for this era. Undoubtedly, this incredible feat contributed to one of Al-Mamun's greatest scientific triumphs, the development of the spherical world map.

In part three and four, the author shifts the focus towards the West's discovery of great Arab accomplishments, in the process discussing thought provoking theological and philosophical ideas. In his recognition for impacts the Arab had on the west, Ibn Al-Haytham emerges as a key figure in the conflict between Arab thought and Medieval Christendom methodologies. Though well known for his accolade within optics, he is widely recognised as the forefather of the modern scientific method, this was defined as the approach to investigating phenomena, acquiring new knowledge or correcting and integrating previous knowledge based on the gathering of data through observation and measurement followed by the formulation and testing of a hypothesis to explain the data. Sadly, the modern scientific method wasn't adopted nor established in the west until philosophers such as Francis Bacon during the renaissance, almost 700 years later.

Examples of the late adoption of Arab science into the West are seen countless times in the book, though it's incredibly important to note that the seeds of knowledge are continuously planted. Thus when the book is read, one notices the blossoming of each seed and the contribution made to modern civilisation.

Through thought-provoking and inspiring discussions by Lyons, the reader is enlightened by the underappreciated history of the Arab and Islamic science. This review merely provides a glimpse of the content in this book and though *The House of Wisdom* is a dense read, opportunities to further understand the characters and stories are provided throughout, aiding the reader through the history surrounding the Arabs' ability to transform the western civilisation. However, for the novice reader, background reading may still be required.

In this incredibly evocative piece, Jonathan Lyons leaves you with speculation; if the Arabic era of scientific magnificence had not come to an end, would the technological civilisation we live in today have existed several centuries ago?