



MUHAMMAD ABDUH'S SCIENTIFIC VIEWS IN THE QUR'AN

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ABSTRACT

This paper aims to analyze Shaykh Muhammad 'Abduh's scientific interpretation of the Qur'an as presented in his voluminous works such as Tafsir Juz Amma and Tafsir al-Manar. It will investigate the scientific methods he developed and dynamic perspectives he projected in analyzing Qur'anic text which provides the ground for rational and critical understanding of the text relating to the nature of bacteria, light, and some other pertinent issues in scientific debates. The paper discerns key ideas and themes of scientific worldview that 'Abduh projected and principle methods he crafted in textual analysis which contribute to promulgate rational and analytical understanding of the text.

Key Words: Qur'an and science, 'Abduh's ideas on science, Scientific method of exegesis, Modern tafsir of the Quran, on science

INTRODUCTION

SCIENCE IN THE QUR'AN

One of the most striking features of the Qur'an is its exhortation to scientific discovery which was alluded in many significant verses (about 750 verses) of Qur'an such as: "Does man think that We cannot [resurrect him and] bring his bones together again? Yea indeed, We are able to make whole his very finger-tips!" [75: 3-4], "Then We smote their ears many years in the Cave. Afterwards We raised them up again, that We might know which of the two parties would better calculate the while they had tarried." [18: 10], "Verily, in the creation of the heavens and of the earth, and the succession of night and day, and in the ships that speed through the sea with what is useful to man, and in the waters which God sends down from the sky, giving life thereby to the earth after it had

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been lifeless, and causing all manner of living creatures to multiply thereon, and in the change in the winds, and the clouds that run their appointed courses between sky and earth, [in all this] there are messages indeed for people who use their reason.” [2: 164], “And He it is who has caused waters to come down from the sky; and by this means have We brought forth all living growth, and out of this have We brought forth verdure. Out of this do We bring forth close-growing grain; and out of the spathe of the palm tree, dates in thick clusters; and gardens of vines, and the olive tree, and the pomegranate, [all] so alike, and yet so different! Behold their fruit when it comes to fruition and ripens! Verily, in all this there are messages indeed for people who believe!” [6: 99], “He created man from a clot of blood” [: 2] “He who hath taught by the pen. Taught man what he knew not.” [: 4-5], “We did not create the heavens and the earth and all that is between them save with the Truth.” [15: 85], “Did We not create you from a base fluid, then lodged it in a secure abode, for a known span? Thus We were able, to do this; so [how] excellent able ones We are!” [77: 20-24]. (Al-Suyuti, 2007: 713-4) He it is who produceth gardens. . . . Eat ye of the fruit thereof when it fruiteth [6: 141].

The Qur’anic dimension of science covered many scientific topics on “natural forms as the signs of Allah” (Rodwell, 2010). The scientific discovery on the nature only confirm the profound connection and universal truth of Quranic revelation with the revealed scriptures of the people of the books, as confirmed by these verses: “[As for this revelation,] it could not possibly be a discourse invented [by man]: nay indeed, it is [a divine writ] confirming the truth of whatever there still remains [of earlier revelations], clearly spelling out everything, and [offering] guidance and grace unto people who will believe.” [12:111], and “Now this Qur’an could not possibly have been devised by anyone save God: nay indeed, it confirms the truth of whatever there still remains [of earlier revelations] and clearly spells out the revelation [which comes] - let there be no doubt about it - from the Sustainer of all the worlds.” [10:38] and as mentioned in hadith: “[...] The Book of Allah contains the narrations of nations that have come before you and the news of nations that will come after you as it is the ultimate judgment between you [...]. Whoever seeks guidance in other than it, Allah will send him astray. It is God’s firm Rope, the Wise Remembrance and the Straight Path [...]. Its wonders are endless”. (Al-Wahidi, 2008)

The title of Qur’anic surah also indicate the same magnitude and connection to science as clearly visible from the title of surah 13 ‘Thunder’ (*al-Ra’d*) which “relates to the evidence of God’s creative powers forthcoming from the observable manifestations of nature,” (Muhammad Asad, 2003: 485), surah 6 ‘The Cattle’ (*Al-An’am*), surah 16 ‘The Honey Bee’ (*al-Nahl*), surah 29 ‘The Spider’ (*al-Ankabut*), surah 57 ‘The Iron’ (*Al-Hadid*), surah 68 ‘The Pen’ (*Al-Qalam*), surah 72 ‘The (Al-Jinn), surah 76 ‘Man’ (*al-Insan*), surah 85 ‘The Great Constellation’ (*al-Buruuj*), surah 86 ‘The Night-Comer’ (*al-Tariq*), surah 90 ‘The Soil’ (*al-Balad*), surah 91 ‘The Sun’ (*al-Shams*), surah 92 ‘The Night’ (*al-Layl*), surah 93 ‘Morning Light’ (*al-Duha*), surah 95 ‘The Fig’ (*Al-Tin*), surah 96 ‘Germ Cell’ (*al-‘Alaq*), surah 97 ‘The Night of Worth’ (*al-Qadr*), surah 103 ‘The Declining Day’ (*Al-‘Asr*), surah 105 ‘The Elephant’ (*al-Fil*) and surah 113 ‘The Dawn’ or ‘The

Day Break' (al-*Falaq*). According to Mustansir Mir, scientific data in the Qur'an and scientific culture it produced has prove what is termed the Qur'an's I'jaz ilmi ("scientific inimitability")--that is, the wish to prove that the presence of verifiable scientific information in the Qur'an will establish the Qur'an as the Word of God, since such a book could have emanated only from a Divine source. He proclaims: "The Qur'an not only lays down the law or narrates historical anecdotes, but also inspires. It inspired the earlier generations of Islam with a vision and a drive, which led Muslims to establish a distinctive intellectual tradition. In founding that tradition, Muslims were also stimulated by their environment, which included the then dominant currents of thoughts and movements of ideas." (Mustansir Mir, 2012).

MAJOR WORKS ON SCIENTIFIC EXEGESIS (TAFSIR AL-'ILM)

In the mid-nineteenth century, many significant works have been produced by modern exegetes and scholars in scientific *tafsir* (*tafsir al-'ilm*) of the Qur'an. It was very influential in the twentieth century with nuance attempt to reconcile Qur'anic teachings with scientific knowledge. Its precursor can be found in classical work of al-Ghazali (d. 505/1111) as early proponent of scientific exegesis, in his description of the Qur'an as being the oceans from which all sciences emerged. (Abdullah Saeed, 2005). Muslim reformists thought in the eighteenth and nineteenth century promulgated by Jamal al-Din al-Afghani, Shaykh Muhammad Abduh, Sayyid Ahmad Khan and Muhammad Iqbal advocating modern Islamic aspiration has been instrumental in the rise of scientific tafsir. In modern time, scientific exegesis has dramatically flourished by the significant effort of Shaykh Tantawi Jawhari with his magnificent *Tafsir al-Jawahir*, Shaykh Muhammad Farid Wajdi with *Al-Mushaf al-Mufassar* and Maurice Bucaille who has produce an influential work attempting to provide scientific reading of Qur'anic verses which have some relationship with science. Notwithstanding this, some Muslim thinkers have strongly criticized it for "ignoring the open-ended nature of scientific discovery and as misreading the Qur'an" (Abdullah Saeed, 2008). Despite such challenge, scientific exegesis has continued to become one of the most important and influential exegesis of the Quran in contemporary time.

ABDUH'S SCIENTIFIC WORKS ON THE QUR'AN

'Abduh has produced many scientific works on tafsir such as *Tafsir al-Manar*, *Tafsir Juz 'Amma*, *Tafsir al-Fatihah*, and *Tafsir Surat al-'Asr*. He developed scientific ideas within the construct of modern Sunni tafsir, which began in the nineteenth century as a reaction to the challenges of Western technology, science and education. His approach was rational and apologetic; and its primary aim was to present Islam to Muslims and defend it against the western secular and missionary onslaughts (Mahmoud Ayoub, 1984). *Tafsir al-Manar* was compiled and completed by Rashid Rida from series of lectures and articles by Muhammad Abduh. It was held "to be authoritative by both progressive and conservative Egyptian Muslim theologians" (Jane Dammen McAuliffe, 1991). In line with Abduh's goal to making the Qur'an accessible to those who had not

studied substantively of religious science, his tafsir steered away from elaborate philological and syntactical analyses, which he considered to be unnecessary obfuscation of the text. Abduh also abstain from attempting to explain the obscure (*mubham*) terms of the text. The exegete, in Abduh's view, 'has no right, is in fact forbidden, to identify anything that is left unidentified by the Quran itself' (Jansen, 1980: 20). For this reason Abduh does not spare much discussion on esoteric meaning of the text (*ta'wil*). He grounded his exegesis with scientific ideals and discovery supported by explicit ayat of the Qur'an and authentic hadith.

ABDUH'S METHODS OF EXEGESIS

In his analysis of Abduh's methodology of Quran exegesis, Abdullah Mahmud Shihatah devotes a chapter to elaborate's Abduh's hermeneutical tendency and judgment. The example taken from Abduh's interpretation include such matters as the unidentified town (*qaryah*) mentioned in surah al-Baqarah 2:58, the plague from heaven (*rijzan min al-sama'*) [2:59], food that Prophet Zachariah found in Mary's chamber 3:37. He also discussed Abduh's exegetical restrain in dealing with eschatological issues (such as *al-sirat*, *al-mizan*, *al-jannah*, *al-nar*, *al-qada' wa'l-qadar*) (Shihatah, 1984). 'Abduh frequently refers to classical tafsir literature with special focus to time and space dimension, occasion of revelation *asbab al-nuzul*, emphasizing on the literal meaning of the text and their context, drive out the *israiliyyat* (Bible-derived and extrabiblical tradition) in his tafsir. In his methods, "purified of foreign lore," he trt to rediscover original meaning of the Qur'an, that shaped the generation of righteous forefathers (*al-salaf al-salih*) and recapture their spiritual morality for diffusion in modern society. (Barbara Freyer,34)

He grouped the verses of a surah into meaningful units and sought to establish connections among the surahs themselves, which indicates, that the ideas of context and integrity enters as a hermeneutical principle and is expressed in terms of the literary excellence (*i'jaz*) of the Qur'an. The tafsir was written in the traditional style as an interlinear (verse by verse) Quranic exegesis, and had cross-references to other Quranic sections dealing with the same topic. Its innovation and modern character range from format to substance.

Some important features of his work is the reform ideas he promulgated, suggesting the need to understand the Qur'an from scientific worldview which required reinterpretation of Quranic ideas (Abdullah Saeed 2008:209), such as miracles, prophethood, faith and reason, knowledge, philosophy and science. The reform idea demanded a reappraisal of the intellectuals heritage of Muslims and required giving up the practice of blind imitation or *taqlid*.

Abduh's decisive views on the Qur'an found resonance in the words of the twelfth century Muslim philosopher Ibn Rushd, in his philosophical treatise *The Decisive Treatise Determining the Nature of the Connection between Religion and Philosophy (Fasl al-Maqal fi Ma Bayn al Hikmah wa'l Shari'ah min al-Ittisal)*, arguing that the Qur'an and philosophical reasoning do not contradict each

other, as both are parts to 'the Truth,' and suggesting for [Muslim] lawyer to infer on allegorical interpretation and meaning by reasoning from scripture: "Now since this religion [Islam] is true and summons to the study which leads to the knowledge of the Truth, we the Muslim community know definitively that demonstrative study [that is, philosophy] does not lead to [conclusions] conflicting with what Scripture has given us, for truth does not oppose truth but accords with it and bears witness to it." (Ibn Rushd, 1961).

Abduh also emphasized on the need to relate the phenomena of science to history in interpreting the Qur'an. He deplored his fellow Muslim's neglect of the study of history. He maintained that it should be the guide for strong nations, enabling them to recover political power and their proper place in the world. Not only does history have a rightful place in Quranic exegesis, it is one of the most useful instruments for a truly modern Quranic exegesis. (Massimo Campanini, 2011)

IMPACT OF HIS SCIENTIFIC IDEAS

Abduh's scientific ideas had great ramifications on the contextualist approach to the Qur'an, such as Fazlur Rahman arguing that *ijtihad* (independent thinking and reasoning) should play a key role in contemporary Muslim life (Fazlur Rahman 214), and Algerian scholar Muhammad Arkoun (b. 1928), the Egyptian Nasr Hamid Abu Zayd (b. 1943), American scholars Amina Wadud and Khalid Abou El Fadl (b. 1963) and Muhammad Shahrur. Particular interest is Shahrur's work *al-Kitab wa'l-Qur'an: Qira'ah Mu'asirah* [The Book and the Qur'an] which directly challenge the authority of traditional Quranic exegesis, and his sustained advocacy for the need to reinterpret ideas of religious authority and tradition, and to apply Islamic precepts to contemporary society.

Shahrur writes that Quranic interpretation has been shackles for centuries by the conventions of medieval jurists, who had mastered the craft of chaining authoritative commentaries to prior authoritative ones and of creating genealogies, or chains (*silsilas*) of traditions of authoritative learning. He seeks to replace this long tradition with human reason. (Muhammad shahrur, 2009: viii). The contextualist methodologies have been adopted by Muslim thinkers in the late twentieth and early twenty first century, allowing for greater scope to interpret the Qur'an and question the rulings of earlier scholars, and significantly engaging with the Qur'an in new ways and "attempted to relate the Qur'an to contemporary concerns and needs by reference to various Quranic ideas and principles that are relevant to the modern period" (Abdullah Saeed, 2005: 214).

Such unprecedented methodologies came with Abduh's new rationale to separate the *ibadat* (laws on religious duties) and *mu'amalat* (laws on social transactions) in the Qur'an and shariah (Yvonne Yazbeck Haddad, John L- Esposito). Muhammad Abduh in his introduction to *Tafsir al-Manar* has argued and emphasized on the important of understanding Qur'anic guidance and concentrating on its literal and direct meaning and relevant to various issues facing the Muslim world. he has made radical breakthrough on understanding Quranic command and injunctions, arguing that while

ibadat lies beyond interpretative change, the *mu'amalat* require interpretation and adaptation by Muslims in light of practical needs of their age. Another modernist characteristic of his views is his desire to express both his exegesis and also his Qur'anic centric blueprint for moral reform in language aimed at wider reading public (Yvonne Yazbeck Haddad, 1988).

Abduh emphasized on avoiding the use of earlier exegesis, that contain too much jargon that made Quranic text seem obscure. According to him, accepting the concept of revelation did not clash with the use of reason, and can help to revive Islam's rationalist's philosophical tradition and renewing morality by returning to pristine example and ideals of first Muslim generation. From his scriptural interpretation he condemned deviations and additions and underscored the primacy of the Quran and the sunna, and founding the ground to reinvestigate classical texts of Islam, which should undergo re-interpretation on many topics closely connected to modern period such as polygamy, war and peace, science, slavery, justice and morality.

ABDUH'S SCIENTIFIC INTERPRETATION OF THE QUR'AN

The manner of Abduh's scientific interpretation was based on rational and pragmatic ideas that he scientifically developed. His commentary substantively reflects profound *ijtihad* and marked the primary importance of reason in his discourse for he believed that: "in Islam there is no such thing as religious authority", (either) the Caliphs or the Qadis or the muftis or the shaykh al-Azhar" (Asghar Ali, 2005). Abduh's scientific discussion on the *ayat* was profoundly based on Quranic spirit and authentic hadith as illustrated in the following points:

From his unique point of view, Abduh claimed that *jinn* is not really supernatural being, but ones hidden from eyes (which is ideally the meaning of the term '*jinn*'). He relates it to modern science discovery of the microbes. In his commentary on surah al-Baqarah, verse 276: "They who swallow down usury shall rise only as he arises whom Satan infected by his touch," he relates the passages on the one who practice usury as epileptics to modern theory of microbes which are to be understood as the *Qur'anic* jinn: "The 'ulama' says that the *jinn* are living bodies which cannot be seen. The '*Manar*' has said more than once that it is permissible to say that minute living bodies which today have been made known by the microscope and are called microbes, may possibly be a species of the *Jinn*. It has been proven that the microbes are the cause of most diseases... however, we Muslims are fortunately under no necessity of disputing with science or the finding of medicine regarding the correction of a few traditional interpretations. The Quran itself is too elevated in character to be in opposition to science." (C.C. Adams, 2010).

Abduh's interpretation of social law in the Qur'an led to some innovative Qur'an interpretation and fatwas (legal opinions) on women and gender issues, particularly in polygamy. He argued that while polygamy was a sound practice among the righteous early believers, it had developed into a corrupt practice of unbridled lust, without justice or equity, in his own time. The following

commentary by him, will clearly illustrate his views on polygamy: “Polygamy, although permitted in the Qur’an, is a concession to necessary social conditions which was given with the greatest reluctance, in as much as it is accompanied by the provision that a man may take more than one wife only when he is able to take equal care of all of them and give to each her rights with impartiality and justice. The *Shari’a* has, in requirement of circumstances permitted the legality of four contemporaneous marriages with great reluctance. Since the proviso immediately following – if you fear that you cannot be equitable and just with all then (marry) only one -, is given so much stress that the permission to contract four contemporaneous marriages becomes practically ineffective. (Abduh, 1906).

He unequivocally condemned the practice of polygamy which has been grossly misinterpreted and flame discord and unrest in society. He call for concerted effort of ulama to provide clear provision on such affairs, and says: “a nation that practices polygamy cannot be educated. Religion was revealed for the benefit of its people; if one of its provisions begin to harm rather than benefit the community...the application of that provision has to be changed according to the change needs of the group.” (Muhammad Imara, n.d.).

Abduh’s rational interpretation of the Qur’an can be conceived from his commentary on surah *al-Fil* which radically departed from classical exegesis. In verses 1-5 Allah says: (1) Hast thou not seen how they Lord dealt with the masters of the elephant? (2) Did He not turn their plots awry? (3) He sent upon them dense clouds of birds. (4) That pelted them with inscribed stones. (5) Thus made He them like greenery eaten down. (Martin Lings, 2007). Abduh refers the phrase ‘*tayran ababil*’ (swarms of flying things) to certain germs and bacteria who showered pebbles over the Abyssinian army which caused the epidemic and it was the first time that smallpox was introduced in Arabia (Abduh, 1985: 157-8). Commenting the *ayat* on the defeat of Abraha before reaching Kaabah he says: “It is possible to conceive that this bird was a species of mosquito or fly which carries the germs of some diseases, and that these stones were of dried poisonous mud which the wind had blown and which had stuck to the legs of these insects. If these came into contact with a body they would enter its pores and cause sores that eventually lead to the decay and decomposition of that body. A multitude of these weak birds might be considered as the mightiest soldiers of God in His destroying whatever people He wills. And this small lifeform, nowadays called the microbe, is the same thing. The groups and communities of these [microbes] are do numerous that only their Creator can count them. But God’s ability to defeat tyrants does not depend on birds being on vast mountain tops, nor on their being a kind of griffin, nor to their being a unique species, nor to knowing the number of stones and why they have such an effect, for God has armies of everything.” (Aziz al-Azmeh, 1996: 119). Such a reasonable explanation on the phenomena is stronger proof and evidence of God’s sign to mankind than showing manifest miracle.

In his commentary on surah al-Nisa', verse 1, which says: *O Mankind! Be conscious of your Sustainer, who has created you out of one living entity (nafs), and out of it (minha) created its mate (zawjaha), and out of the two spread abroad a multitude of men and women. And remain conscious of God, in whose name you demand [your rights] from one another, and of these ties of kinship. Verily, God is ever watchful of you!* [4:1] Abduh interprets the verse to be the generality of mankind and refuting the theory of Darwin on human evolution. He differs from many classical commentators in attributing the term *nafs* as "human being" and gives preference to the meaning "humankind", inasmuch as this term stresses the common origin and brotherhood of the human race (Farouk Musa, 2011). This was further reverberated by Muhammad Asad, that the term "nafs", in this context is interpreted as "a living entity", following the same reasoning as Abduh.

Abduh brought strong argument showing various groupings of people scattered over the face of the earth was descended from particular root and origin: "Among the indications of the context that Adam is not intended, is the general and indefinite way in which the descendants are referred to: 'many men and women.' Further, since the address is general to all peoples, many of whom know nothing about Adam and Eve, how could such a particular reference be intended? The origin of the human race from Adam is a history derived from the Hebrew, whereas the Chinese, for example, have a different tradition. Science and investigation into the history of mankind have discredited the Hebrew tradition. And we Muslims are not obliged to believe the account of the Jews, even though it be traced back to Moses; for we have no confidence that it is from the *Tawrah* (Book of Moses) and that it has remained as Moses gave it..."God has left here the matter of the soul from which he created men indefinite, so let us leave it in his indefiniteness. (Abduh, 1906) (Livingston, 1995).

In the Qur'anic account of Adam's expulsion from the Garden of Eve, and consequence Adam's earthly toil (20:117) Abduh interpreted the meaning in the context of equality and parallel right of man and woman. Abduh advocate the fundamental principle of equality and justice and the same right and responsibility of man and woman. in his commentary on chapter 3 verse 4 which read: "So their Lord accepted their prayer, (saying): I will not suffer the work of any worker among you to be lost whether male or female, the one of you being from the other." Abduh argued that escape from punishment and reward consists only in performing the work in proper manner and with sincerity. It shows, he insists, that men and women are equal before God in the matter of reward, when they are equal in their work. He further explained: "Anyone who knows all nations before Islam gave preference to man, making women merely his chattel and a plaything, how some religions gave precedence to the man simply because he is a man and she a woman, and how some people consider the woman as incapable of religious responsibilities and as possessing no immortal soul, anyone who knows all this, can appreciate its true value and Islamic reform in the belief of the nations and their treatment of women. Moreover, even now European laws and religious traditions continue to place man above woman. To be sure, the Muslims have been at fault in the education

and training of women and acquainting them their rights; and we acknowledge that we have failed to follow the guidance of our religion. (Asghar Ali Engineer, 2005: 127).

Abduh's commentary on surah al-Baqarah, 18-19, assert his mastery of science as he mentions the unique and systemic creation of heaven, analyzing Qur'anic passage "that positively excite scientific interest, which mentions a storm cloud out of heaven, big with darkness, thunder and lightning, as he writes: The truth about lightning and thunder and the storm cloud and the reasons for their occurrence, is not among the subjects investigated by the Qur'an, because this belongs to the science of nature and the happening of the atmosphere, which it is possible for men to know by their own exertions and does not depend upon inspiration." (Livingston, 1995).

His commentary on surah 2: 276 reflect his profound and strong analysis of great dimension of Islamic medicine: 'They who swallow down usury shall arise (in the Resurrection) only as he ariseth whom Satan hath infected by his touch.' Commenting on the *ayat* Abduh wrote: "The common interpretation", he says, 'refers this to the resurrection, at which time, says Tradition, those given to usury will arise as epileptics. But the connection says nothing to indicate a reference to the Resurrection; whereas this interpretation depends upon Tradition, and is like most other traditional interpretations in being invented to explain a difficult passage which the interpreters did not understand. But the suggestion of Ibn 'Atiyah is nearer the truth: they shall arise, that is, in their ordinary movements, as the one whom satan had infected, that is, like an epileptic.'" (C.C. Adams, 2010). His scientific ideas had furnished the ground for Islamic medicine to flourish and the expanding of scientific ideas from major works of tafsir.

In his commentary of *Sura al-'Asr*, Abduh extensively discussed scientific and theological understanding of the Qur'an pertaining to *kasb* (men's own voluntary acts of choice) *ikhtiyar* (free will), and actions initiated from human effort, in which nothing in God's omniscience prevents man from choosing to make the effort. In this regard, he fundamentally says: "Consciousness and the senses testify that certain acts of a man are his own...the Qur'an also speaks of 'what ye do,' and 'what your hands have acquired'. All the requirements of the divine law are based on the principle that a man is responsible for what he does. There would be no justice in holding a man responsible for something not within his power nor his will... at the same time, there is no question that all things originate with God and are attributable to Him. This is practically an instinctive recognition...his power is also unquestionable. If he wished, he could rob us of the ability and will which he has given us" (C.C. Adams, 2010, Kenneth Cragg, 1966). His discussion on kalam has been instrumental in the promulgation of scientific ideas with regard to critical thought in Islam and empowering its ideological base and dimension.

CONCLUSION

The discussion on Abduh's scientific views on the Qur'an has resulted in many pertinent points to be reflected. It can be summarized that the scientific views he espoused had great bearing on scientific endeavors currently operated in the Muslim world. In this brief discussion, we have clearly seen persistent effort of Shaykh Muhammad Abduh to reconcile reason and revelation and harmonize science and religion, constantly promulgating his reform and scientific ideas and aspiration as stressed in his theological and apologetic writings. Abduh's scientific interpretation of the Qur'an has been profoundly constructed to furnish the ground for rational and scientific undertaking to flourish. Such undertaking of genuine scientific interpretation has become the catalyst for broader dimension of scientific analysis and enterprise in modern tafsir and has been instrumental in driving critical investigation on crucial aspects of science and technology for greater benefit of Muslim and humanity at large.

REFERENCES

- Abdullah Saeed. (2005)** 'Qur'an: Tradition of Scholarship and Interpretation, in Lindsey Jones (ed. in chief), *Encyclopedia of Religion*. Farmington: Thomson Gale, vol. 11.
- _____. (2008) *The Qur'an: An Introduction*. New York: Rutledge.
- A.J. Arberry. (1996)** *The Koran Interpreted*. New York: Touchstone.
- Al-'Aqqad, 'Abbas Mahmud. (1980)** *Al-Mar'a fi l-Qur'an*. Misr: Dar Nahda.
- Al-Mahalli, Jalal al-Din, Al-Suyuti, Jalal al-Din. (2007)** *Tafsir al-Jalalayn*. Translated by Feras Hamza. Amman, Jordan: The Royal Aal al-Bayt Institute for Islamic Thought.
- Al-Tustari, Sahl b. 'Abd Allah. (2011)** *Tafsir al-Tustari*. Translated by Annabel Keeler, and Ali Keeler. Amman, Jordan: The Royal Aal al-Bayt Institute for Islamic Thought.
- Al-Wahidi, Ali ibn Ahmad. (2008)** *Asbab al-Nuzul*. Translated by Mokrane Guezzou. Amman, Jordan: The Royal Aal al-Bayt Institute for Islamic Thought.
- Andreas, Christmann (ed.). (2009)** *The Qur'an, Morality and Critical Reason: The Essential Muhammad Shahrur*. Leiden: Brill.
- Asghar Ali Engineer. (2005)** *The Qur'an, Women and Modern Society*. UK: New Down Press.
- Athallah, A. (2006)** *Rasyid Ridha: Konsepsi Teologi Rasional dalam Tafsir al-Manar*. Erlangga
- Barbara Freyer, Stowasser. (1994)** *Women in the Qur'an, Traditions and Interpretations*. Oxford University Press.
- Charles C. Adams. (2010)** *Islam and Modernism: a Study of Modern Reform Movement Inaugurated by Muhammad Abduh*. Kuala Lumpur: Islamic Book Trust.
- Charles Upton. (2010)** *Green Qur'an: the Meaning of the Noble Qur'an after the English Translation of J.M. Rodwell*. San Rafael, CA: Sophia Perennis.
- Ebrahim Kazim. (2011)** *Scientific Commentary of Suratul Fatehah*. Trinidad, West Indies: Islamic Academy.

Farouk Musa, "Feminism, gender equality and the Qur'an" <<<http://en.harakahdaily.net/index.php/columnist/ahmad-farouk-musa/3290-feminism-gender-equality-and-the-quran.html>>> accessed 23 Jan 2012

Fazlur Rahman. (1980) Major Themes of the Quran. Second ed. Chicago: University of Chicago Press.

George F Hourani (ed. and trans.). (1961) Averroes on Harmony of Religion and Philosophy. London: Luzac.

Jane, Dammen McAuliffe. (1991) Qur'anic Christians: An Analysis of Classical and Modern Exegesis. Cambridge: Cambridge University Press.

Jansen, J.J.G. (1980) The Interpretation of the Koran in Modern Egypt. Leiden: E.J. Brill.

Laleh Bakhtiar. (2011) Concordance of the Sublime Quran. Chicago: Library of Islam.

Livingston, John W., (1995) "Muhammad 'Abduh on Science", The Muslim World, Vol. lxxxv, no. 3-4, July-Oct.

Mahmoud M. Ayoub. (1984) The Qur'an and its Interpreters. Albany: SUNY Press.

Martin Lings. (2007) The Holy Qur'an: Translations of Selected Passages. Cambridge: The Royal Aal al-Bayt Institute for Islamic Thought & The Islamic Text Society.

Massimo Campanini. (2011) The Qur'an: Modern Muslims Interpretations. Translated by Caroline Higgitt. New York: Routledge

Maududi, Abul Ala. (1988) Towards Understanding the Quran. Translated by Zafar Ishaq Ansari. Leicester: The Islamic Foundation.

Muhammad Asad. (2003) The Message of the Quran. UK: The Book Foundation.

Muhammad Abduh. (1906) Tarikh al-Ustadh al-Imam. Egypt: Matba'at al-Manar.

_____. N.d. Al-Islam wa-al-Mar'ah fi ra'y al-Imam Muhammad Abduh. Muhammad Imara (ed.). Cairo. N.p.

_____. (1985) Tafsir Juz 'Ammah. Beirut: Dar wa Maktabah Hilal

_____. (2004) The Theology of Unity. Translated by Ishaq Musa'ad, & Kenneth Cragg. . Kuala Lumpur: Islamic Book Trust.

Muhammad Rashid Rida. (1973) Tafsir al-Qur'an al-Hakim al-Shahir bi Tafsir al-Manar. Beirut: Dar al-Ma'arif.

Mustansir Mir. (2012) "Scientific Exegesis of the Qur'an – a Viable Project?" in Iqbal, Muzaffar (ed.). Studies in the Islam and Science Nexus. Feb, Vol. 1.

Nasr, Seyyed Hossein. (2002) The Heart of Islam: Enduring Values for Humanity. New York, NY: Perfect Bound.

Shihatah, Abdullah Mahmud. (1984) Manhaj al-Imam Muhammad 'Abduh fi Tafsir al-Qur'an al-Karim. Cairo: Matba'at Jami'ah al-Qahirah.

Yvonne Yazbeck Haddad, John L- Esposito (eds.). (1998) Islam, Gender and Social Change. Oxford: Oxford University Press.