

ISLAM AND SCIENCE: RELIGIOUS ORTHODOXY AND BATTLE FOR RATIONALITY

Written by Prof. Pervez Amirali Hoodbhoy

Reviewed by Zia H Shah MD

This is a book review for the book by Pervez Amirali Hoodbhoy with foreword by Dr. Abdus Salam. Hoodbhoy is the Professor of High Energy Physics, and the head of the Physics Department at Quaid-e-Azam University, Islamabad, Pakistan. He graduated and also received PhD from MIT and continues to do research in Particle physics. He received the Baker Award for Electronics in 1968 and the Abdus Salam Prize for Mathematics in 1984. It is very useful book to demonstrate that science is universal. Dr Abdus Salam is the only Muslim Nobel laureate in physics. He wrote in the foreword for this book, "There is only one universal science, its problems and modalities are international and there is no such thing as Islamic science just as there is no Hindu science, no Jewish science, no Confucian science, nor Christian science."¹



Dr. Abdus Salam

Why then do religious people keep commenting and writing about science? It took someone with Einstein's intellect to propose the theories of General and Special relativity. It took a generation of great minds like Werner Heisenberg, Max Born, Pascual Jordan and Niels Bohr to develop Quantum mechanics. These concepts still pose a great intellectual challenge to merely understand them. Yet many an atheist and agnostic scientists propose that a universe with such complexities and order is merely an accident. This is the greatest paradox ever known to mankind! This is why religious people feel the pressing need to write and comment on science and this is indeed where the concept of 'metaphysics' comes in. What is metaphysics? Metaphysics is a term, which literally means, 'what comes after physics.' So, it is a branch of philosophy that studies the ultimate structure and constitution of reality, correlating religion and

science. Metaphysics investigates principles of reality transcending those of any particular science, cosmology and ontology. It is concerned with explaining the fundamental nature of being and the universe.

The systematic study of the nature is called science and in a theistic paradigm it is the study of the 'Work of God.' The scientific revolution of the last millennium, has established that there is one 'universal science.' It is a shared heritage developed by Christian, atheist, Jewish, Muslim and other scientists. We need to enter this millennium with a more clear and rational thinking, about relationship of science and religion.

The strength of the book by Hoodbhoy lies in demonstrating for the Muslim masses that science is a universal concept and there is no separate Muslim, Christian or Jewish science. Commenting on this book, Edward W. Said, from Columbia University states and it is mentioned on the back cover of the book, "A compelling and provocative analysis of the relationship between the scientific spirit and the orthodoxy of one of the great monotheistic religions. Any reader, Muslim or non-Muslim, is bound to be affected by Dr Hoodbhoy's clear and persuasive arguments on the need for a reinstatement of scientific rationalism at a time of social crisis and questioning within the world of Islam and beyond."

The vulnerability of the book lies in its not appreciating the concept of 'metaphysics' and the author has limited himself to science and religion only and failed to appreciate as to how they relate with each other as one builds a holistic picture to appreciate the total reality. This becomes most evident when he unfairly criticizes the famous and the well known writer Dr. Maurice Bucaille. The author of this review proposes that there needs to be three very clear domains of human intellectual activity, namely 'science,' 'religion' and 'metaphysics.'

The Muslims who are overawed by science and the Western society propose that science and religion ought to be completely separate. But, how can believers shy away from the fact that the study of the 'Work of God,' namely science is in perfect accord with the 'Word of God.' This convergence of evidence gathered from different sources establishes the truth and authenticity of the Holy Quran. To elucidate this point further let us see how the Holy Quran combines the mundane with the sacred and the tangible with the intangible:

The disbelievers say: This Quran is naught but a lie that Muhammad has fabricated, and other people have helped him with it. They have, thereby, perpetrated an injustice and an untruth. They also say: These are fables of the ancients which he has got someone to write down for him and they are recited to him morn and eve. Say to them: The Quran has been revealed by Him Who knows every secret that is in the heavens and the earth. Indeed, He is Most Forgiving, Ever Merciful. (Al Quran 25:5-7)

Many a Christian writer and clergy claim that the Holy Quran is borrowed from the Bible. Allah refutes this allegation in the words, "The Quran has been revealed by Him Who knows every secret that is in the heavens and the earth." The most effective proofs of this Quranic claim were to come after the scientific revolution. Maurice Bucaille's book is indeed a landmark achievement in this regards. However, it needs to be understood that the Holy Quran is a book of 'religion' and not a 'book of science' and Bucaille's book is a book of 'metaphysics' and not of science. Science by demonstrating that the Holy Quran includes information that could not be known to a desert dweller in Arabia of the 7th century, becomes a proof of the statement, "The Quran has been revealed by Him Who knows every secret that is in the heavens and the earth." In addition to Bucaille's book *the Bible the Quran and science* another book that is instrumental in this regard is by Hadhrat Mirza Tahir Ahmad, *Revelation, Rationality, Knowledge and Truth*. More on this issue later.

The passion to relate science and religion, however, can overshoot and the pendulum can swing too far. This is where the main strength of Hoodbhoy's book lies, as he examines the state of science in Muslim countries.

SCIENCE IN MUSLIM COUNTRIES

The book explores the relationship between scientific thought and Islamic theory and practice, both historically and in the contemporary Muslim world. The author's controversial, but important, contention is that science in these countries today is in an appalling state, and that religious orthodoxy and the rise of fundamentalism are responsible. His book thus deals with one of the critical factors likely to determine the success or otherwise with which the Muslim world responds to the accelerating challenges of scientific and technological advance.

The human condition is, as Plato would make Socrates say in the Republic (7.514a ff.), comparable to that of prisoners of an underground cave, whose unfortunate fate is to confuse reality with passing shadows created by a fire inside their miserable abode and kept in motion by clever manipulators, who in the name of politics, religion, science, and tradition control the human herd. The sorry state of science in the Muslim world and different distortions, conflicts and schizophrenic approach towards science arises in myopic view of the politically motivated leadership. The political leadership in their pursuit of short term political, social or economic interests has played havoc with the future of the Muslims. Hoodbhoy explains:

"To someone traveling by aero plane, the view of cities from Karachi to Tehran, and Dubai to Riyadh, differs but little. This uniformity comes not from the common faith shared by their inhabitants, but from Western technology in the form of skyscrapers made of steel and glass, modern airports with sleek looking airliners on the tarmac, highways crammed with cars, and television antennae sprouting from every dwelling. Also imported from abroad are the technologies from which these societies derive their basic sustenance. Oil exploration, drilling, extraction, refining, and transportation are particularly important examples. They permit nations like Saudi Arabia and Iran to exchange natural wealth for manufactured goods ranging from AWACS early warning aircraft to rifle bullets, and from oil refineries to can openers. For some

decades to come, a slippery, subterranean hydrocarbon will continue to provide the basic sustenance of these countries, finance their wars, allow experimentation with new social structures, and temporarily - but only temporarily - grant exemption from that inexorable law of history which relegates unproductive societies to destruction or marginalization. It is now perfectly routine to lament this critical dependence on oil and Western technology and ritualistically to call for a transfer of technology from developed to developing countries. Often, diabolical theories of international conspiracy, with varying degrees of credibility, are invoked as explanations for Muslim scientific backwardness. But these are not very fulfilling. Indeed, the damage to the collective self-esteem cannot be undone by such means, and thoughtful Muslims must seek sounder reasons.

In seeking an explanation for scientific underdevelopment, one must recognize at the outset that the environment for science in Islamic countries today is replete with paradoxes. On the one hand, all these countries are in the full grip of Western technology and market-based consumerism, which are the products of the Scientific Revolution. This has legitimized science as essential knowledge, and mastery over it as necessary for economic development and national power. Hence no group which seeks to win public support can afford to condemn science totally. But, on the other hand, technology and the market bring about homogenization and threaten old collective identities. Perceived as even more threatening to traditional norms and thinking is the attitude prescribed by science - an attitude which demands persistent query and examination of ideas. Muslim modernists and pragmatists have persistently sought to amalgamate the new with the old. But their attitude towards science is oftentimes a schizophrenic one, particularly in those Muslim countries where orthodoxy wields state power.

This point is exemplified by the views expressed by Saudi delegates to a high level conference held in Kuwait in 1983. The ostensible aim of the conference, attended by rectors from 17 Arab universities, was to identify and remove bottlenecks in the development of science and technology in the Arab world. But a single topic dominated the proceedings: is science Islamic? The Saudis held that pure science tends to produce 'Mu'tazilite tendencies' potentially subversive of belief. Science is profane because it is secular; as such - in their opinion - it goes against Islamic beliefs. Hence, recommended the Saudis, although technology should be promoted for its obvious benefits, pure science ought to be softpedalled."²

Here was a representative of the Saudi Royal family trying to keep the Muslims away from science, reality and truth to unfairly usurp the national resources and national destiny for the benefit of few called the Royal family. Hoodbhoy goes onto examining the sorry state of the Pakistan politics how it introduced distortions in 'science.'

"Nowhere is the conflict between scientific and traditional modes of thinking more visible than in the dispute over miracles. Precisely to underscore the belief in the efficacy and existence of miracles, a large-scale international conference entitled Scientific Miracles Of Quran And Sunnah was held in October 1987 in the capital city of Islamabad. Inaugurated by the late President of Pakistan, General Zia-ul-Haq, and organized jointly by the International Islamic University and the Organization Of Scientific Miracles based in Mecca, this much heralded conference was attended by several hundred pious participants from Muslim countries. The Scientific Miracles Conference was a significant event because it was one of the many of its kind supported by the Pakistani state in the recent past, and because it clearly portrayed the mind-set of those who wielded state power in Pakistan. The thrust of the conference was towards the following:

- (1) Affirmation of the existence of 'scientific' miracles;
- (2) Proving that all known scientific facts can be traced to either the Qur'an or Sunnah;
- (3) New conjectures related to physical phenomena, ostensibly based on the holy texts;
- (4) A condemnation of secular 'Western' science.

... The new moon of the month of Ramazan is the subject of bitter argument between the scientifically inclined and the ulema (religious scholars), and amongst the ulema themselves. Often the dispute among the ulema over whether or not the new moon had appeared has led to Muslims starting the Ramadan fast at different times, or celebrating the Eid festivals on different days, depending on which community follows which ulema's authority. In order to eliminate the confusion and disputes, the scientifically inclined insist that modern astronomy can predict the position and time of the new moon to excellent accuracy. Hence, in their opinion, disagreements between different observers can be eliminated and the date of Eid announced beforehand. Most of the ulema vehemently disagree and insist that there can be no substitute for visual sighting. The Pakistan government, anxious to avoid divisive decisions on a sensitive issue, has created the *Ruet-i-Hilal* (moon sighting) committee which is taken aloft in an aero plane at the opportune time. Agreement on even this procedure, however, is not unanimous among the ulema."³

The philosophical basis for these practical distortions was provided by Maulana Maudoodi. Hoodbhoy explains:

"Maulana Abul Ala Maudoodi, founder of the Jamaat-e-Islami and one of the most influential Islamic thinkers of our times, also bitterly criticizes Western science. In a lecture on Islamic education, he stated that geography, physics, chemistry, biology, zoology, geology and economics are taught without reference to Allah and his Messenger and are hence a source of *gumrahi* (straying from the truth):

Reflection on the nature of modern education and customs immediately reveals their contradiction with the nature of Islamic education and customs. You teach young minds philosophy which seeks to explain the universe without Allah. You teach them science which is devoid of reason and slave of the senses. You teach them economics, law and sociology which, in spirit and in substance, differ from the teachings of Islam. And you still expect them to have an Islamic point of view?

To avoid this evil the Maulana presents a solution wherein all education should be converted into Islamic education. He writes:

The entire blame for this sorry state of affairs rests on the separation of *dini* (spiritual) from *dunyawi* (worldly) education. As I have just pleaded, this separation is totally Unislamic. In the new system of education a new course on *dinyat* is not needed. Instead. all courses should be changed into courses of *dinyat*.

With the passage in May 1991 of the Shariat Bill by Pakistan's National Assembly and Senate, the ulema's dream of a completely Islamized education, free from contamination by modern science has presumably been brought a step closer to reality."⁴

After the creation of Pakistan there was a power struggle by the Mullahs to take over the political control of the country. Maulana Maudoodi views can be best understood in that context. Prior to creation of Pakistan when India was a British colony and it was a matter of survival for the Muslims, greater rationality had prevailed. One person who can be considered to be a spokesperson for rationality in this domain is Syed Ameer Ali; and it is no wonder that he belonged to the era before Pakistan, before the hunger of power took away the sanity of the so called ulema. Hoodbhoy describes the work of Syed Ameer Ali:

"Syed Ameer Ali (1849-1924) educated in England and a firm disciple of Syed Ahmed Khan, Syed Ameer Ali wrote his magnum opus *The Spirit Of Islam* with a definite goal in mind -- to

prove that true Islam is revolutionary, rational, and progress oriented. First published in 1891, and repeatedly enlarged upon until 1922, the book underwent innumerable reprints and was read throughout the Muslim world. For Western educated Muslim modernists of the early 20th century, it was a definitive and comprehensive work which challenged the hostile representations of Islamic history, values, and theology put forward by most Orientalists. But it was also a work for which its author was repeatedly dubbed an apologist who pandered to modern Western ideals at the expense of true Islamic ideas.

Syed Ameer Ali's concern with the issue of scientific progress and Islam permeates much of his book. His views on this can be summarized as follows:

The Holy Qur'an and sayings of the Prophet (PBUH) give supreme value to knowledge. Knowledge is to be understood as including science. This is what motivated the early Muslims to study science.

Aristotelian philosophy and rationalist thinking were entirely in accordance with Islam, and the Mu'tazilite movement is to be sympathized with even if it went a bit too far sometimes. The Muslim philosophers and scholars - Al Kindi, Al Farabi, Ibn Sina, Ibn al-Haytham, Ibn Rushd -- are true heroes of Islam.

It was the fanatics and rigid dogmatists who caused Islamic science and culture to collapse. Syed Ameer Ali identifies those most responsible as Al Ashari, Ibn Hanbal, Al Ghazzali, and Ibn Taymiyya.

Science needs to be brought back from the West into Islam; it is not something foreign to Islam and not by any means unIslamic."⁵

Dr. Abdus Salam had a great zeal and enthusiasm for development of science in Muslim societies. He suggests a solution for lack of progress in Muslim countries in the Foreword of the book:

"One of the most perceptive sections in this book concerns the position of the ulema in Islam. As the author says, 'Islam had no church, no formal centre of tyrannical religious authority. Paradoxically, a superior moral position - the right of the individual to interpret doctrine without the aid of priests - appears to have led to a systemic organizational weakness which proved to be fatal to Islamic political and economic - not to speak of scientific and technological - power in the long run.'

This, in my opinion, has come about through the wielding of the weapon of excommunication (takfir). The list of those who have been excommunicated at some time or other includes such luminaries as Imam Ali - the Kharjites did that - Imam Abu Hanifa and Imam Malik bin Anas, founders of two of the four recognized schools of Islamic theology; Imam Ghazali, Sheikh-ul-Akbar Ibn-i-Arabi, Imam Ibn-i- Taymiyya, Sayyid Muhammad Jonpuri and scientists like Ibn Rushd, Abu Ali Sina, Ibn-ul-Haitham, and others. Often, the verdict of excommunication was a local sectarian aberration. However, sentences of death were carried out; among those actually martyred were mystics like Mansur Al Hallaj, Sheikh-ul-Ashraq Shahabuddin Suhrawardi, Sheikh Alaaee and Sarmad. All this happened despite the absence of an organized clergy within Sunni Islam. In recounting the martyrdom of Sarmad, Abul-Kalam Azad wrote:

'During the last 1,300 years, the pens of jurists have always acted like a drawn sword, and the blood of many of the chosen ones of God have stained their persons ... this martyrdom was not limited to Sufis and the free thinkers -- even the greatest Muslim men of orthodox scholarship suffered.'

Thus, not having a priesthood in Sunni Islam has not helped us much because of this propensity of the ulema to wield the weapon of excommunication and for our rulers and the general public to listen to them. What, then, is the remedy so that takfir does not recur - at least so far as scientific beliefs are concerned?

One remedy would be to try to deal with the two classes of so-called ulema separately. First, there are the lay preachers whose major task is to lead prayers in the rural mosques and who earn their living by performing such functions as officiating at marriage, death and circumcision ceremonies and looking after the upkeep of the mosques. This is a professional class who should have scant interest in fundamentalist persecution once their livelihood is secured. If this can be guaranteed them (like the Christian priests whom they resemble) they would not retard the progress of science and technology.

The second category of ulema is the damaging one. These are men (without spiritual pretensions) who claim to interpret the Holy Quran, issue excommunication fatwas -- something the Holy Prophet - Peace be upon him - never did - and give their view on all subjects - politics, economics, law--in their Friday sermons.

Lest it should be objected that there is no priestly class in (Sunni) Islam, one must state clearly that, in this respect, Islam has had the worst deal of all the great religions of humankind. In most Islamic countries, a class of nearly illiterate men have, in practice, habitually appropriated to themselves the status of a priestly class without possessing even a rudimentary knowledge of their great and tolerant religion. The arrogance, the rapacity, and the low level of commonsense displayed by this class, as well as its intolerance, has been derided by all poets and writers of any consequence in Persia, India, Central Asia and Turkey. This is the class which has been responsible for rabble-rousing throughout the history of Islam and for the repression which matched (fortunately, only sometimes) the systematic persecution perpetrated by the Inquisition in Christian societies. The only long-term remedy for the situation is to deprive these persons of their power to make mischief through their Friday sermons which, instead of being spiritually elevating, are usually political tirades. This politicizing should be stopped."

DR. MAURICE BUCAILLE

One weakness of the book is where Prof. Pervez Amirali Hoodbhoy extends unjustified criticism against Dr. Maurice Bucaille. We will quote that section in its entirety, in a piece meal fashion, accompanied with a defense for Bucaille's approach.⁶

"A French surgeon who turned spiritualist, Monsieur Bucaille shot into prominence throughout the Islamic world with the publication of his exegesis, *The Bible, The Qur'an, and Science*. Translated into numerous languages, hundreds of thousands of copies of the book have been printed and distributed free of cost by Muslim religious organizations throughout the world. At international airports and American university campuses, it is the spearhead with which evangelical students seek to win conversion to Islam. Most Muslim intellectuals that I know of have either read the book, or at least have heard about it. As for the author, his popularity is unquestionable. One wonders how much of this arises from the fact that he is a white man; for it cannot be denied that even with the demise of colonialism the white skin still commands much authority. In any case, Monsieur Bucaille is in great demand at conferences, such as the First International Conference of Scientific Miracles of the Qu'ran and Sunnah, of which he was a chairman."

Most of this is statement of facts. However, when he suggests, 'One wonders how much of this arises from the fact that he is a white man; for it cannot be denied that even with the demise of colonialism the white skin still commands much authority,' this has to do more with many a secular Muslims being overawed by science than playing in favor of Bucaille.

“Bucaille's method is simple. He asks his readers to ponder on some Qur'anic verse and then, from a variety of meanings that could be assigned to the verse, he pulls out one which is consistent with some scientific fact. He thereupon concludes that, whereas the Bible is often wrong in the description of natural phenomena, the Qur'an is invariably correct and that it correctly anticipated all major discoveries of modern science. To this end, he marshals an impressive number of Qur'anic references to bees, spiders, birds, plants and vegetables of different kinds, animal milk, embryos, and human reproduction. His discussion of inanimate matter ranges from the planets of the solar system, to galaxies and interstellar matter, and then to the expansion of the universe and the conquest of space. He ends the discussion of each topic with the ritual conclusion that the marvelous agreement of Qur'anic revelations with scientific facts is proof of its miraculous nature.”

Bucaille is not suggesting any scientific method but suggesting a philosophical or metaphysical proof of the truth of Islam. This is where the concept of metaphysics comes into play. Once again, metaphysics is a branch of philosophy that studies the ultimate structure and constitution of reality, correlating religion and science.

“Whereas Monsieur Bucaille appears eminently satisfied with his methodology, Muslims who wish to combine reason with faith will readily detect at least two fundamental flaws in it even though they accept the divine nature of the Qur'an. First, it will be recognized that the proof of a proposition is meaningful only if the possibility of disproof is also to be entertained. What sense does it make to assume that the sum of the angles of a triangle equals 180 degrees, and then 'prove' the same? Since believers know that it is impossible for the Qur'an to be wrong in any manner, all attempts at 'proving' its divine nature are entirely specious right from the start.”

Yes, disproof is to be entertained, but not on just one piece of evidence but on preponderance of evidence. It was on such evidence that Bucaille drew the conclusion that there was conflict between the Bible and science. Here is an example that is developed in detail by Andrew Dickson White, in the chapter on astronomy in his book *A History of the Warfare of Science with Theology in Christendom*, originally published in 1896:

“Among various rude tribes we find survivals of a primitive idea that the earth is a flat table or disk, ceiled, domed, or canopied by the sky, add that the sky rests upon the mountains as pillars. Such a belief is entirely natural; it conforms to the appearance of things, and hence at a very early period entered into various theologies. ...

But the strictly biblical men of science, such eminent fathers and bishops as Theophilus of Antioch in the second century, and Clement of Alexandria in the third, with others in centuries following, were not content with merely opposing what they stigmatized as an old heathen theory; they drew from their Bibles a new Christian theory, to which one Church authority added one idea and another, until it was fully developed. Taking the survival of various early traditions, given in the seventh verse of the first chapter of Genesis, they insisted on the clear declarations of Scripture that the earth was, at creation, arched over with a solid vault, 'a firmament,' and to this they added the passages from Isaiah and the Psalms, in which it declared that the heavens are stretched out 'like a curtain,' and again 'like a tent to dwell in.' The universe, then, is like a house: the earth is

its ground floor, the firmament its ceiling, under which the Almighty hangs out the sun to rule the day and the moon and stars to rule the night. This ceiling is also the floor of the apartment above and in this is a cistern, shaped, as one of the authorities says, 'like a bathing-tank,' and containing 'the waters which are above the firmament.' These waters are let down upon the earth by the Almighty and his angels through the "windows of heaven." As to the movement of the sun, there was a citation of various passages in Genesis, mixed with metaphysics in various proportions, and this was thought to give ample proofs from the Bible that the earth could not be a sphere."⁷ The whole text of the two volumes of the book can be read on www.archive.org or www.questia.com. The book is filled with scores of genuine examples wherein the Bible is at odds with the modern science. One can bend the text so far and the reality eventually begins to show.

"Second, hanging an eternal truth on to the changeable theories of science is a dangerous business. Our understanding of the universe may change drastically with time, and science is quite shameless in its abandonment of old theories and espousal of new ones. Will this not wreak havoc if one attempts to anchor a theological idea on to these shifting sands?"

If the Holy Quran is truly the 'Word of God' and nature is 'Work of God,' then there is no risk of the metaphor of 'shifting sands,' becoming a big issue. Any apparent conflict will be limited in time and will be more than compensated by a large body of clear agreement and congruence. It would be a scenario where it will be apt to say that exception proves the rule. A well founded and reproducible science will only confirm a genuine and preserved scripture.

"Consider the following. Monsieur Bucaille has 'discovered' that the Qur'an speaks of a universe which is continually expanding. Now, let us overlook the *fact* that it was only after astronomical observations established the truth of this phenomenon that the expansion of the universe was suddenly 'discovered' as a long-known religious fact. Consider, instead, what would happen if some new astronomical observations were to indicate that the universe was contracting rather than expanding. Indeed, cosmologists suspect that a few billion years hence, the universe will cease expanding and then start contracting. Under the extreme assumption that life will continue to exist in the present form, we can ask what options a Bucaillist living a few billion years hence will have when faced with the contracting universe. Possibly, he may refute the astronomical evidence in favor of what he believes to be a religious truth. But, more likely, he will discover hitherto undiscovered subtleties of the Arabic language which persuade him that earlier interpretations were incorrect, and he will then find a suitable passage which fits the new *facts*."

Hoodbhoy has to go several billion years in the future to pick up a metaphor to make his case. This shows the frailty of his case against Bucaille. When authors make a case for correlation of the Quran and science, very often the language of the Holy Quran is very specific. If Hoodbhoy thinks that retrofitting randomly is such an easy task, why should not we ask him or other secularly biased writers to try to do the same to one of the other scriptures, other than the Holy Quran or to the books of ancient philosophers like Aristotle and Plato? Aristotle for example believed in a universe that is eternal and static. It would be a worthwhile exercise to demonstrate how we can fit 'big bang' and expansion of the universe in the Bible, Gita or Vedas.

“Observe that in Bucaille's book there is not a single *prediction* of any physical *fact* which is unknown up to now, but which could be tested against observation and experiment in the future.”

Here we would like to quote the work of Dr. Abdus Salam. He was the co-recipient with Steven Weinberg and Sheldon Lee Glashow of the 1979 Nobel Prize for Physics for their work in formulating the electroweak theory, which explains the unity of the weak nuclear force and electromagnetism, had inspiration of his work from his belief in Unity of God. It is stated in the book, *Ideals and Realities*, “To a Muslim mystic, Allah is to be sought in eternal beauty. And for Salam, beauty comes through finding new, subtle, yet simplifying patterns in the natural world. Anything that threatens to confuse the issue seems to him ugly, filling him with an utmost physical revulsion and driving him to clean it away, much as one would remove mud from a shrine.” The physicists are now working on a string theory that will unite all forms of matter and energy into one. The string theory can be considered to be an extension of his work to other forces of nature. Additionally, based on the verses of the Holy Quran, Hadhrat Mirza Tahir Ahmad has prophesized extraterrestrial life and its meeting with the mankind in due course of time. To read rest of the story about extraterrestrial life go to:

<http://www.alislam.org/library/books/revelation/index.html>

“Pseudo-scientific attempts, of which the above are examples, to derive the physical sciences from the Qur'an have been courageously criticized by some of the great Muslims of modern times. One finds, for example, a point of view diametrically opposed to fundamentalist thinking of the Bucaillist variety in the works of Sir Syed Ahmed Khan, the founder of Aligarh University in India. Syed Ahmed Khan believed that it was futile to regard the Qur'an as a work on science. A good portion of his own labors as a religious scholar were, in fact, aimed at disentangling what he considered to be the essential message of the Qur'an from certain confusing and wrong beliefs of Greek astronomy.”

This actually serves the purpose of Bucaille that wrong beliefs of Greek astronomy could be refuted from the Holy Quran.

“Although he believed the Qur'an to be divinely revealed, he also held the view that attempts to derive scientific truths from the Book were entirely misplaced. Syed Ahmed Khan wrote that: ‘The Qur'an does not prove that the earth is stationary, nor does it prove that the earth is in motion. Similarly, it cannot be proved from the Qur'an that the sun is stationary. The Holy Qur'an was not concerned with these problems of astronomy; because the progress in human knowledge was to decide such matters itself. . . . the real purpose of a religion is to improve morality. . . . I am fully convinced that the Work of God and the Word of God can never be antagonistic to each other; we may, through the fault of our knowledge, sometimes make mistakes in understanding the meaning of the Word.’”

This is indeed what Bucaille is doing, by showing the congruence of the ‘Work of God’ and the ‘Word of God,’ he is providing a glorious proof for the truth of the Holy Quran. Bucaille is not extending or distorting the meaning or scope of science. He is merely indulging in ‘metaphysics’ to make a thesis for his claims about the Holy Quran.

"Here is the crux of Syed Ahmed Khan's belief: 'the real purpose of religion is to improve morality'. Let scientific truths be established by observation and experiment, he says, and not by attempting to interpret a religious text as a book of science. By having explicated these beliefs in such clear terms, and by virtue of his well recognized role as the protector of Muslim interests in British India. Syed Ahmed Khan's philosophy provides in principle a credible antidote against the various strains of Bucaillism which have gained such enormous currency in the Muslim world today."⁸

We applaud Syed Ahmed Khan's contributions to education of the Muslims but he lacked in knowledge in some aspects of religion and metaphysics. For the sake of example we quote from the foreword of a book, the Blessings of Prayers by Promised Messiah^{as}, Hadhrat Mirza Ghulam Ahmad, "*Barakatud Du'a, or the Blessings of Prayer*, written by the Promised Messiahas in 1893, is a refutation of Sir Sayyid Ahmad Khan's view that there is no such thing as the acceptance of prayer, and that prayer is no more than a form of worship. The Promised Messiah^{as} rejects this view and proclaims that Allah hears and accepts the supplication of believers which are offered in humility and sincerity, and that the acceptance of prayer sets in motion its own chain of causes which culminates in the fulfillment of the objective prayed for.

In the second part of the book, which deals with Sir Sayyid Ahmad Khan's other book *Usulut Tafsir (On the Principles of Commentary of the Holy Quran)*, the Promised Messiah presents his criteria or guiding principles for the correct interpretation of the Holy Quran."⁹ The book *the Blessings of Prayer* can be reviewed at the following link:

<http://www.alislam.org/library/books/Blessings-of-Prayer.pdf>

EPILOGUE

In human intellectual pursuits there are three fairly separate domains, consisting of 'science,' 'religion' and 'metaphysics,' with very little overlap. The source of knowledge in religion is mainly 'revelation.' The source of knowledge in science is observation and experimentation. One could draw inspiration for scientific pursuits from religion. This is one self evident area of overlap between the two disciplines. 'Metaphysics,' however, allows for much wider speculation and correlation between the domains of religion and science, without spoiling the discrete and independent existence of both.

One of the reasons why scientific pursuits had died in the Muslim societies, during the middle ages, was the fact that the freedom and pursuits of the scientists were hijacked by the fundamentalists. That is what Hoodbhoy wants to avoid at all cost in Muslim societies and that is the main thrust of his book.

One day the Holy Prophet Muhammad^{saw} happened to pass near a date-palm garden where some people were grafting trees. He inquired what they were doing, and when they explained the process he asked them why they did not do it another way. The following year these people complained that they had adopted his suggestion, but that the trees had yielded less fruit. "But I had merely made an inquiry from you," he said. "You know more about these things than I

do. You should have followed the method which experience had taught you was the best.”¹⁰ This incident clearly establishes that Islam does not give any license to the self-righteous to hijack the independent study of nature.

The philosophical works of Averroes or Ibne Rushd were studied carefully by Western philosophers and theologians, helping them establish nature as an autonomous realm of intellectual endeavor. This led eventually to the principle of reductionism in science which implies that nature, the way it is created by its Creator, lends itself to study in small pieces and small aspects. This helped Newton to look at the motion of things and state his laws of motion and helped Louis Pasteur find that disease can be caused by bacteria and that life is not created from non-life. Eventually the chemists could study the different elements in isolation, one at a time, separate from each other. This was the founding and unyielding principle for the scientific revolution in Europe.

As we get science free from the politics of the fundamentalists we should not destroy or ignore ‘metaphysics’ that serves as a proof for the truth of the Holy Quran. In the words of Allah:

The Quran has been revealed by Him Who knows every secret that is in the heavens and the earth. Indeed, He is Most Forgiving, Ever Merciful. (Al Quran 25:7)

¹ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page ix.

² Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 28-29.

³ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 46.

⁴ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 53-54.

⁵ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 57-58.

⁶ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 67-68.

⁷ Andrew Dickson White. A History of the Warfare of Science with Theology in Christendom. Volume: 1. Appleton and Company. Place of Publication: New York. Publication Year: 1914. Page Number 89-92.

⁸ Pervez Amirali Hoodbhoy. Islam and Science: Religious orthodoxy and the battle for Rationality. Zed Books Limited, London and New Jersey, 1991, page 67-68.

⁹ <http://www.alislam.org/library/books/Blessings-of-Prayer.pdf>

¹⁰ Muhammad Zafrulla Khan. Islam: its Meaning for Modern man. Harper and Row, 1962. Page 66.

The subtitle, "Religious Orthodoxy and the Battle for Rationality", assumes that religious orthodoxy is a blind force committed against rationality and is something to be battled. We are not told what defines "religious orthodoxy", but it seems that for the author it means religious beliefs and practices taught by the "ulama" (religious scholars), including those that are also found in the teachings of the Prophet and his companions. One can even be critical of science and rationality and yet be completely scientific and rational. It is also true that a person can make excellent contributions to a very specific area of science and yet may be very irrational and unscientific in his views generally. The way al-Ghazali debates the issues qualifies him as a rational and scientific man. The passion to relate science and religion, however, can overshoot and the pendulum can swing too far. This is where the main strength of Hoodbhoy's book lies, as he examines the state of science in Muslim countries. Science in muslim countries. The book explores the relationship between scientific thought and Islamic theory and practice, both historically and in the contemporary Muslim world. Prior to creation of Pakistan when India was a British colony and it was a matter of survival for the Muslims, greater rationality had prevailed. One person who can be considered to be a spokesperson for rationality in this domain is Syed Ameer Ali; and it is no wonder that he belonged to the era before Pakistan, before the hunger of power took away the sanity of the so called ulema. Science and Civilization in Islam. Resource Rationality and Strategy Rationality. Beyond dogmatism: Rationality in theology and science. Critical theologians, in an attempt to transcend the intellectual coma of fideism and . interpretation, the use of models and analogies, and the role of a community of .. the fact that the Bible, as classic text of the Christian faith has. HTS. The author's controversial, but important, contention is that science in these countries today is in an appalling state, and that religious orthodoxy and the rise of fundamentalism are responsible. His book thus deals with one of the critical factors likely to determine the success or otherwise with which the Muslim world responds to the accelerating challenges of scientific and technological advance.

The passion to relate science and religion, however, can overshoot and the pendulum can swing too far. This is where the main strength of Hoodbhoy's book lies, as he examines the state of science in Muslim countries. Science in muslim countries. The author's controversial, but important, contention is that science in these countries today is in an appalling state, and that religious orthodoxy and the rise of fundamentalism are responsible. His book thus deals with one of the critical factors likely to determine the success or otherwise with which the Muslim world responds to the accelerating challenges of scientific and technological advance. Hoodbhoy, P. (1991) *Islam and Science: Religious Orthodoxy and the Battle for Rationality*, (London and Atlantic Highlands, NJ: Zed Books).Google Scholar. Kalin, I. (2001) "The Sacred Versus the Secular: Nasr on Science", in Hahn, L. E., Auxier, R. E. and Stone, L. W. (eds) *Library of Living Philosophers: Seyyed Hossein Nasr*, pp. 445-62 (Chicago, IL: Open Court Press).Google Scholar. Lodhi, M. A. K. (ed.) Nasr, S. H. (1989) "Islam and the Problem of Modern Science", in Sardar, Z. (ed.) *An Early Crescent: The Future of Knowledge and the Environment*, pp. 127-39(London: Mansell).Google Scholar. Nasr, S. H. and Iqbal, M. (2007) *Islam, science, Muslims, and Technology* (Kuala Lumpur: Islamic Book Trust and Sherwood Park/Al-Qalam Publishing).Google Scholar. *Islam and Science: Religious Orthodoxy and the Battle for Rationality*. London: Zed Books Ltd. has been cited by the following article: TITLE: Epistemological Foundations of Natural Sciences in Islam. AUTHORS: Marziyehsadat Montazeritabar. KEYWORDS: Islamic Science, Epistemology, Natural Sciences, Islamic Worldview. JOURNAL NAME: Open Journal of Philosophy, Vol.9 No.2, March 18, 2019. ABSTRACT: Every scientific system relies on a particular civilization and cultural origin. Islamic science is no exception to this rule and is dependent on Islamic civilization and derived from its specific intell