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Scientific thoughts of Allama Iqbal

Abstract

The present article spells out some of the unique aspects of Iqbal's thinking about the in depth studies of scientific subjects. Although he's known as poet and philosopher but how beautifully and articulately he has discussed some of the modern thinking being the subject of pure science. Most important is his voyage of skies along with Moulana Roomi. In this Allama has disclosed about an invention discovered in 1978, 1954 & 1980 i.e. test tube baby, solar & wind energy. Further he has discussed quite extensively the theory of relativity, quantum theory by Albert Einstein.

Key Words; Iqbal; scientific discoveries, theory of relativity, Einstein, voyage, Maulana Roomi, test tube baby, solar energy, wind energy.

Introduction

Allama Iqbal is mostly known and recognized as a thinker, poet and philosopher. One step ahead, we consider him the great leader of the Muslims of the subcontinent, advocate of Pan-Islamism and Hakeem-ul- Ummat while he was always aware of contemporary realities as well. He had very keen eye on the Scientific Facts and Philosophical problems of Twentieth Century. Although he has not been a science student in any university but he used to study the latest phenomena of Physical Sciences, Engineering and Technology. There were more than 20 books on science and engineering¹ (the best one at that time) that he was studying which were written by the eminent international experts in their respective fields. That is why, in his poetry and philosophical thoughts, modern scientific studies are not only reflected but also predicted by him. It can be said that he was the only poet in Urdu and Persian who could be described as the possessor of scientific consciousness in the true sense. How important the significance and awareness of science was in Allama's life can be seen from this one incident written by Syed Faqir Wahiduddin

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¹ Igbal and scientific tassawrat- p-56

in "Roozgar-e-Faqeer"². He says that in 1925, Niaz Muhammad Khan, Mumtaz Hasan and Mian Nasser Ahmad went to meet Allama Iqbal at his home McLeod Road Lahore. Allama asked these students "which subjects do you study"? Mian Nasser Ahmed replied, "Physics and Chemistry". After hearing this, Allama started mentioning the theory of relativity and said, "to understand this theory, I studied mathematics. What did as far as I understand, the theory of relativity means that the world is not eternal, but that it is created and must perish".

Mian Nasser Ahmed told humbly, "Now a days an American Physicist named Professor Thomson Holy Compton, being a noble prize winner in physics in 1927, is here in Lahore to give a lecture. If you go to meet him and listen to his lectures and discuss with him, the result will certainly be useful." Allama said, "I must go." This lecture was organized in Physics Theater of Government College Lahore. Mian Naseeruddin Ahmed says that when I reached the Lecture hall, I saw that Allama is sitting on the last bench very contentedly. When the speech of the American Professor ended, he invited questions from the audience. Allama asked Professor Compton several important questions during this question-answer session, which were so scholarly and complex that according to Mian Naseer Ahmad, his understanding could not reach there. Be mindful of what Compton said and almost crestfallen by Allama's questions, said that science cannot definitely answer these questions.

The scientific path has been admired and modern scientific 2 ideas have been utilized by Allama in his poetry and sermons especially in "The Reconstruction of Religious Thought in Islam". Allama Iqbal's interest in science is also evident from the fact that he wanted Muslim students to get more scientific education so that they could face the challenges of the modern world. He wanted as many translations of scientific books as possible so that Muslim students could easily gain knowledge of science. According to the Moulvi Abdul Haq³, Iqbal told him in 1932, "your efforts for Urdu are very sacred but your focus is only on literature, there should be the practice that science books are translated to Urdu so that Muslims step out of the imaginary world and step into the world of knowledge". When Baba-i-Urdu Moulvi Abdul Haq asked him to suggest a

² Roozgar-e-faqeer (part-2)-p-70-71

³ Telash-e-Iqbal-p-219

book in this regard, he named George Sarton's 'Introduction to the History of Science' because this book is not only a history of science but also shows that how did Muslims contribute significantly to the development of science. This book was published in 1927 in Baltimore, UK in three volumes. This is one of those scientific books which were being read by Allama. Syed Nazir Niazi writes that Allama used to say:"Why don't we understand that it was Islam that fetched in the conditions on which the progress and development of knowledge depended? What were those conditions? Observation, Inspection, Thinking, Experience, Investigation, Confirmation of facts, their study and their continuous interpretation and elucidation. If these conditions were not fulfilled, then further Course of knowledge would have 3 stopped for a long time."⁴ After "Israr-e-Khudi", famous work of Allama Iqbal is "Ramoz-e-Bekhudi" that was first time published in 1918. By that time, the process of generating hydroelectricity from water had started, but solar energy and wind energy did not exist. The first solar cell was further invented in 1954, after more research and its engineering, in 1968; a small power plant was installed in Genoa, Italy, making it workable. While, Allama depicted in "Ramuz-e-Bekhudi" during 1917-18,

("Take bright sunshine from the sun which illuminates the world and generate electricity from the flow of water to light up the houses)⁵.

Similarly, the commercial operation of generating electricity from the wind was done first time in 1980 in USA in the state of New Hampshire while Allama Iqbal said much earlier during 1917-18 in Ramooz-e-Bekhudi" as,

("Ride on the back of the wind and put bridle to control thiswild animal")⁶. The process of mining had already started during Allama's era. Allama while encouraging Muslims to do the same says in his poem Tousee Hayate Millia uz Taskheer Quwat-

⁴ Iqbal ky Huzoor by S.Nazir Niazi-p-374

⁵ Kulyat-e-Iqbal(Persian,Ramooz-e-Bekhudi)-p-167/181

⁶ Kulyat-e-Iqbal(Persian,Ramooz-e-Bekhudi)-p-166/180

("Paint your hands with the blood of the mountain and bring out pearly waters from the sea, that is look for the treasures of the nature in the mountains and rivers&sea")⁷.

All intellectual work of Allama Iqbal is exemplary and of high profile but "Javed Nama" is unmatching and above all, you may say it, a master piece work. At the end of 1931, Allama went to UK to participate in Second Round Table Conference, and then in London, he met with other scholars outside the conference. When he met Syed Ziauddin Tabatabai (former Prime Minister of Iran). Allama recited to him a few verses from "Javed Nama, which made Tabatabai flabbergasted and he said, "I have neither read such verses nor listened to them. It is necessary for such poetry to be widely spread & published in Iran." ⁸

In Javed Nama, Allama Iqbal leaves for heaven along with Maulana Jalal-ud-Din Rumi. Consider the unmatched Proficiency of Allama like a refined and experienced scientist who begins his journey from Earth in archaeological order, first to its closest planet Qamar(Moon) from earth(384,400km) followed by Mercury(105.9 million km from earth) next to Venus (133.1million km from earth), then to Mars (395.62million km from earth), next to traveling Jupiter (637.05 km from earth) from this planet to Saturn (1.4035 5 billion km from earth) and then ultimately departs to heaven (Aasman & Falak) This entire traveling&journey from earth to final destination thru planets is exactly in a sequential way as the planets are located in Solar System.

On these planets and finally in Heaven (Falak) Allama along with Rumi met many Muslim and non-Muslim personalities & intellectuals. Among them, there is a meeting with a prophetess. She, from the planet Mars who gives message to the women of Earth

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⁷ Kulyat-e-Iqbal(Persian,Ramooz-e-Bekhudi)-p-166/180

⁸ Asfar-e-Iqbal-p-198

through Allama Iqbal,9

"Now the time is coming when the miracle of Science will see the embryo inside a woman's body inside the womb. The time is coming when you will be able to get your desired gender from the Farm of life (you would be able to get sons or girls of your own choice) the child formed in mother Λs womb will develop in a different manner, in the mother's womb means the morning will come without night."

This is the point to ponder that Allama's far reaching sight enriched with the scientific knowledge was foreseeing, the ultrasound and test tube baby in 1930-31, while the first ultrasound took place in 1956 and the birth of first test tube baby happened in 1978.

Allama Iqbal tried to understand Einstein As Theory of relativity from a scientific and philosophical perspective. He was well aware of the importance, significance and various aspects of this theory. Pakistan's famous scientist and the Editor of American Magazine" Hadronic Journal" Dr. M. Salim writes about Allama Iqbal interest in "the Theory of Relativity": "In this era when even proficient scientists did not understand the importance of Theory of Relativity, it is very unusual for a philosophical poet without the knowledge of Mathematics to gain so much mastery and prudency of the subject of space and time from this point of view" 10.

In his poetry Allama Iqbal has paid great tribute to Einstein:11

⁹ Kulyat-e-Igbal(Persian-Javed Naama)-p-128/896

¹⁰ Iqbaliyat (Jan-March,2010)-p-4

¹¹ Kulyat-e-Iqbal(Persian,payam Mashriq)-p-239/471

"Eager for Revelation like Moses, until his bright heart opened the mysteries of light in a moment from the height of sky to the man's eye so fast as not to be imagined (it reaches the eye of man in a moment). The solitude of light is in the black coal (in the form of a diamond) lying in the mine. And its flame burns the tree (grown) on the "Mountain Toor" like a fire. 7 This (light) is without change in the magic (of this World) of decrease and increase and why and how. (Similarly) it is high and above then the highs and lows, Late or quick time, and near or far distances. Darkness and light, fire and flame, death and life are hidden in his worth. Satan is from his wrathful Glory (from the fire of heat), Gabriel and Maiden angels are from his beauty (from his cooling maneuver). What can I say about the status of such an ingenious scientist, a Zoroastrian (Zoroastrians Consider fire the sacred one) appeared in the generation of Moses and Haroon (it is like a second Zoroastrian was born in the Jewish nation)".

In this poem Allama compares Einstein with Hadhrat Moses and Zoroaster. Professor Yusuf Salim Chishti says that "It should be clear that Iqbal has compared him with Zoroaster because this is the philosopher who first informed the world about importance of light." ¹²Allama supports Einstein's concept in an Essay "Self in the light of Relativity". Einstein is quite right in saying that universe is finite and boundless. It is finite because it is passing face of God's extensively infinite consciousness and boundless because the creative power of God is intensively infinite". ¹³ This article was published in

¹² Sherah Payam-e-Mashriq –p-570

¹³ Crescent Mazine year 1925

1925 in "Crescent" magazine of Islamia College Lahore.

In his poetry, Allama Iqbal has prioritized time over material earth at some places. For him, our world is so vast but swims like a fish in the ocean of time. Allama Iqbal says: 14

"Our World, which has no shore, is like a fish drowning in the sea of time (time is taking it away)".

According to EinsteinAs theory of relativity, time is an organic whole in which there is no limitation of past, present and future. In future we may see the events which happened in the past or distant stars whose light takes a long time to reach to the earth. When an object Travels at the speed of light, time stop for it and the distinction between past, present and future is lost, as if all the times coverage in one moment. According to Allama, time is an organic whole. It is not correct to divide it into past, present and future. He says: 15,16

"What is the reality of your day and night? The flow of an age in which there is neither day nor night. Time is one, life is one and universe is also one. Proof of short sightedness is the story of modern and ancient."

According to Allama Iqbal, time is related to the revolution of consciousness. If a revolution takes place in consciousness, then the difference between far and near disappears and all the time diminish into one moment. So time is extra in terms of realization. According to Iqbal, the revolution is due to Love. A body made of matter does not hinder in the flight. This is what Einstein says that matter turns into energy;¹⁷

¹⁴ Kulyat-e-Iqbal(Persian,payam Mashriq)-p-45/277

¹⁵ Kulvat-e-Igbal (Urdu, Bal e Gibrael)-p-420/96

¹⁶ Kulyat-e-Iqbal (Urdu, zarb-e-kalim)-p-538/38

¹⁷ Kulyat-e-Iqbal (Persian, Javed Nama)-p-20/788

"He who talks about near and far is related to consciousness.' What is Ascension? Ascension is the process&name of creating a revolution in consciousness. The revolution within the consciousness is born from the involvement and eagerness. If, as a result of love, the consciousness becomes revolutionary, then this difference between near and far will disappear. This body does not share with our soul. These fists of clay (human bodies) are no obstacle to the flight of Soul (The event refers to the Ascension&Waqia-e-Merag)."

Allama Iqbal had a deep interest in Astronomical objects (Ijram-i-Falki). Syed Nazir Niazi writes that once there was a discussion on theory of Malthus¹⁸. Someone asked: "What will happen if the population of World increases to such an extent that it becomes impossible to accommodate it on this planet? Allama said, "the man will turn to the stars. The question was asked, "How the man will pass thru Space that is located between our earth and other planets?" Allama said, "This process is certainly difficult but conquering distance is not impossible."

From Astronomy point of view, this is not the only place in which we live but there are many other places which are still hidden from our eyes. "Scientists have been able to observe only 4% of the Universe through the most powerful binoculars and know nothing about the remaining 96%." Allama often presents astronomical objects in his poetry in an allegorical manner for the understanding of his 10 philosophy. For example. 20

¹⁸ Igbal and scientific Tassawrat-p-52

¹⁹ Iqbal and scientific Tassawrat-p-51

²⁰ Kulyat-e-Iqbal (Urdu, Baal e Gibrael),. P-475/151-152

"The star of dawn said to the stars one night. Has anyone seen the man awake? Mars said, understanding is destiny, Sleep is the punishment for this Small (problematic) creature. If he gets familiar with the gratification by the night of awakening. This mysterious clay (man) is higher than Surriya (the highest stars). Such powerful manifestation is there in his embrace. All firmaments of the Heavens will be lost in his power."

According to Einstein's theory of Relativity, the speed of time is not always the same, sometimes it passes faster and sometimes slower. According to Allama Iqbal, every World has its own time, sometimes slow and sometimes fast. Our years are months in one world and moments in another. Likewise Allama Says in Javed Nama:²¹

"Each world has its own moons and stars, and each has its own ways of life (that are different). The time of every (world) place flows like a river, which is slow in this

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²¹ Kulyat-e-Iqbal (Persian, Javed Nama)-p-175/943

world and fast in other one. The years and months of our world are a moment (Second) there. 11 Here the year is in twelve months, but there the year is just a Second."

According to Allama Iqbal, since our hypothesis is based on our senses, when there is change in senses, the concept of time and space also changes and the concept of rest and movement & motion becomes different.²²

"The development of our knowledge depends upon speculations and our speculation is based on our (five senses), (the results of speculations are always unreliable) when the sense changes, the world changes. The form of peace, movement, condition and research are changed. (Thus the Speculations will be changed accordingly)"

According to Allama Iqbal, the universe is undergoing revolution (change) every moment, it's interior is alive and evolving:²³

""I even say that this world is going thru a revolution. Its style is lively and irresolute (changes are happening in the World all the time)".

Allama Iqbal values scientific inventions, For example he gives great importance to the Innovative thoughts:²⁴

According to Allama, "the only one who has power of inventions gets respect".25

²² Kulyat-e-Iqbal (Persian- zaboor-e-Anjam)-p-236/734

²³ Kulyat-e-Iqbal (Persian- zaboor-e-Anjam)-p-218/716

²⁴ Kulyat-e-Iqbal (Persian- zaboor-e-Anjam)-p-225/993

²⁵ Kulyat-e-Iqbal (Urdu- zarb e kalim)-p-679/179

"The one who is in the World of invention, the master of invention. In every age, he gets all the respect."

Galileo's understanding of the mysteries of the stars with the help of a telescope; Allama says:²⁶

"I did not understand the reality of stars. I did spend the nights in this thought."

Discovering Isaac Newton's Law of Gravitation.²⁷

"I uncovered the secrets of attraction on the World by putting the telescopic mirror of wisdom."

Michael Faraday's discovery of the laws of electricity and Wilhelm Rington's discovery of Cosmic rays.²⁸

"Captured the rays, the restless lightening, I have made this land valuable for paradise."

"Allah has entrusted man with the power of creativity so that he may exercise his Command&authority over the elements."²⁹

²⁶ Kulyat-e-Iqbal (Urdu- Bang e Dara)-p-109/93

²⁷ Kulyat-e-Iqbal (Urdu- Bang e Dara)-p-109/93

²⁸ Kulyat-e-Iqbal (Urdu- Bang e Dara)-p-109/93

²⁹ Kulyat-e-Iqbal(Persian,Ramooz-e-Bekhudi)-p-166/180

"Man is the deputy in the world by the Almighty Judges or Rulers over the elements."

Allama Iqbal is the first and only poet whose verses combine energy and movement with its different states. There are thousands of verses in Iqbal's poetry that are not only about Movement &heat but also encompass different aspects about facts of objects. For example, he says:³⁰

"Peace and stability from delusion. Every particle of the universe yearns. The carvan of existence never halts. That every moment is a new glorious for existence. The facilities for travel of Light. Travel is reality, the departing is temporary."

Scientific Historian George Sarton in his book "Introduction to the history of Science" has praised the scientific attitude of Muslims. By saying, until the end of eleventh century, Arabic was the Scientific Language of mankind. If anyone wanted to get Scientific Latest information, he had to Learn Arabic"

Allama Iqbal summed up in his poem in this way,³¹

³⁰ Kulyat-e-Iqbal (Urdu, Bal e Gibrael)-p-454/130

³¹ Kulyat-e-Iqbal(Persian, Massenvi Musafer)-p-40/1128

"Knowing the nature of things did not begin with the English people. Its basis is only the pleasure of new discovery. If you analyze carefully, this (knowledge &skill, insight &wisdom) is created by Muslims. This pearl has fallen from our hands. When the Arabs subjugated Europe, they laid the foundation of knowledge and wisdom there in a new Way. This Seed (knowledge & Wisdom) was swon by Arab Desert dwellers but its fruit was picked up (collected) by the people of Europe. This fairy (knowledge and wisdom) has come out of the glass of our forefathers, so hunt it again because it is the fairy of our own mountain of Qaf."

For Allama Iqbal, whether it is religion or Science, there is no justification to follow blindly. If he is convinced of the scientific interpretation of religion, he also gives impression of the religious formation of Science. In fact, this is the scientific trend in Iqbal's theory of "Self" that nature has reached its peak and the scientific way of thinking has found a beautiful and effective style with Iqbal. The instigation of Allama to become ultimate fate is the result of Iqbal's scientific thinking. There is a saying of Iqbal in his English sermons: "the reality of the universe is not a life force that is pursuit of an objective."

The Scientists of the nineteenth Century believed that matter has its own external existence which does not depend on other thing. But now the belief has changed to some extent. Allama Iqbal had clear and unique perspective on these years ago in his Sermons. He said: "Physics is an empirical science that deals with our sense experiences. The beginning and end of a physicist's research and inquisitiveness is related to the natural phenomena without which he cannot test the validity of the facts he discovers. It is true that he also includes invisible objects in his hypotheses, but this is because without them he cannot interpret his sense experiences. Thus, the knowledge of physics is only the study of the material World which we can know with the help of our senses."

Paying tribute to Einstein, Allama Says: "But the person who gave the greatest push to the concept of matter is the eminent physicist Dr. Einstein, whose discoveries sparked a far reaching revolution in the scientific World of mankind."

Allama Iqbal called the Source of his scientific thought, i.e. the Study and observation of nature, as Ayatollah in the language of Quran itself. He says that one cannot (avoid) close one's eyes to the arrangement, unity, uniformity, construction,

objectivity, agreement, mathematical order etc. of the universe. They exist in the universe only for study and observation, which does not only make the scientist a man of God from being godless but also completes the personality of a true scientist. All these things are the signs of the study of reality which are in the face of man. So he said: "The study of nature's invitation, together with the gradual revelation the fact that the universe according to the teachings of the Quran is inherently dynamic, unlimited and evolving, eventually led to the confrontation of Muslim thinkers with Greek philosophy."

Allama Iqbal says: "it was this intellectual clash that introduced the sciences of Islamic civilization to its true spirit. Therefore, whoever observes and studies the verses of God as the Verses of God. In fact, he is a scientist in true spirit and also a Believer."

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"The Light of truth (Quran) is right in every aspect. The reason of everything is the secret of this truth (given in Quran). Everyone who is bound by the Verses of God is a man of dignity. The original wisdom is to follow Allah's order to Look. Whatever you see is because of the light of truth by the Almighty. The wisdom of things is one of the secrets of truth. Whoever looks at the verses is a man of dignity. The basis of this wisdom is actually Allah's command Look."³²

For Allama Iqbal, wisdom is the knowledge of Science and the secrets of the truth are revealed by it. He thinks that merely prolonged thoughts are useless. Achieving accessibility is not a serious and scholarly effort based on mere concepts and if so, it is not effective.

Acknowledgement

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³² Kulyat e Iqbal (Persian) pass che bayed kerd--)-pp-57/1073