

THROUGH SCIENCE AND PHILOSOPHY TO RELIGION

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1. Problems of Human Life

Life means activity and all activity brings with it certain problems. Those problems have to be solved successfully in order to make the human life a success.

If we analyze the human problems, we find that they fall under two categories, viz:

(1) Immediate Problems;

(2) Ultimate Problems.

The immediate problems are the practical day-to-day problems, such as those, which refer to the immediate personal needs of the individuals and such problems as the administration of the state, the production, consumption and distribution of wealth and the relations between the different nations of the world. There is no human being living on earth who has not to face these problems one way or the other during his life. The manner in which these problems are faced and the efficiency and practical common sense which is shown in connection with their solutions forms the measure of human success.

As regards the ultimate problems, every human being who takes life seriously finds himself face to face with them as soon as he attains the age of maturity and feels the strains, the burdens and the intricacies of life. The first question, which arises in this connection, is: "What am I?" Every human being is closer to himself than to anyone else. Hence the first problem, which should arise in his mind in connection with the ultimate problems, should naturally be about his own self.

The question: "What am I?" is a question about the **nature** of human beings. But this simple question opens a whole field of questions which shoot off in a continuous chain and whose links are forged with the unbreakable bond of necessity. Consideration of this first question, therefore, leads to the next one, namely: "From where have the human beings come?" Then a third question arises: "What is the nature of human life?" and then a fourth question: "What is the purpose and end of human life?"

All the above-mentioned questions are, so to say, **personal**. But, then, no human being lives in a vacuum. He lives in a world, which is infinitely and immeasurably vaster than his physically infinitesimal personality, and this world influences, his life and his actions at every step. His fortunes, nay, his very life is interlinked with and dependent upon the world around him. For instance, if the sun were to stop its function all life would disappear; and, again, if the heat of the sun becomes even 25% more than what it is normally in summer, the human bodies would be reduced to ashes.

This being the case, the questions about one's own self lead to questions about the world. The first question in that connection is: "What is this world", which in other words means: "What is the **nature** of this world?" But the nature of a thing cannot be properly understood unless we have a clear idea about the origin of that thing and the purpose for which it functions. Therefore, the question about "what" leads to questions about "when", "how", "where from" and "whereto". In other words the enquiry arises: "When did the world come into being?" "From what source did the world acquire its life? "What is the end towards which it is moving?" and "What is the final goal (destiny)?"

Among the questions about the world, the question:

"How did the world come into being?" brings forth a number of further questions, namely: "If this world came into being by itself, how is that conceivable i.e., on what ground?" "If this world was brought into being by some other force, what is that force?" "Is it an impersonal force like electricity, or is it a person?" "If it is believed to be an impersonal force, that would mean that it is a

blind force like all impersonal forces; and if it is a blind force, how could intelligence, foresight, plan, purpose and law come out of it?" "If it is a person, what is the nature and constitution of that person?" "Is He a person like us – physical, faltering and subject to the processes of decay and death, or is He eternal?" "If not physical, what else is He?" "Is He finite or infinite?" "Is he one in number or two or three or more?"

The above-mentioned questions concerning man, the worlds of God are ultimate questions (or fundamental problems). The questions are so vital that every thinking human being is bound to face them at one time or the other during his life and they have such a close bearing on the immediate questions of life that anyone who has any knowledge of human problems will admit that they cannot be shirked.

II. Importance of Ultimate Questions in Practical Life

Some might doubt that these ultimate questions may not after all be as important as they are said to be. Indeed, the modern secular civilization is, for all practical purposes, based on the notion that these ultimate questions have nothing to do with the immediate practical problems of mankind and that the interest that can at all be reasonably taken in them cannot be anything else than academic. In other words, these questions are meant only for philosophers and no practical person could waste his time and energy on them. But if we go deep into the matter, we are bound to come to the conclusion on the basis of our common sense itself that the ultimate questions are infinitely more important than the immediate questions.

The problem can be attacked from different angles. But here it will suffice to quote just one instance of the importance of ultimate questions in the field of the immediate problems in life, namely, we shall discuss the practical consequences of belief and disbelief in the existence of God.

As we all know, there have been two schools of thought in this connection. One school of thought, who has always formed the overwhelming majority of mankind, holds that God exists and that He has created the world, while the other school of thought

assumes that there is no such power as God and that the world came into existence of God.

Now, if there is no God and the world came into being by itself, it means that it came into being by **chance**. In other words, it is a world of chance in which everything and every event emerges and dies out by chance.

If we consider the nature of "chance" itself, we find that it always indicates an event, which has no pre-conceived cause. In any case, it cannot be said to be a planned event. Again, if there is no plan in an event, there can be any purpose, because all purposive activity is planned, whether the planning is conscious (namely based on intellectual appreciation) or merely instinctive. Resuming the argument, if the world came into being by chance, it is a blind and lawless world. Indeed, the very word "chance" means the absence of law.

Now, if the world is lawless in its inherent constitution and if everything which is born out of this world is also in its nature without law, it means that the formulation of any laws by human beings, whether these laws are scientific, ethical or political or economic, would be a violation of human nature and the nature of the world itself. But human beings cannot exist without law. Therefore, they are bound to give up the atheistic hypothesis of the existence of the world in order to live. If they don't and if they carry the atheistic hypothesis to its logical consequences, the only law, which they can establish for themselves, would be the law of the jungle in political administration and the rule of the expediency in moral life.

Speaking from the other side, namely, affirmation of faith in God's existence, if we believe that God exists and that He has created the world, it means that the world came into being through planned creation, is functioning under a system of law and is moving towards a purpose. In other words, plan, purpose and law are inherent in the very constitution of the world. This, in turn, provides the ground for every branch of human law – ethical, political, economic and so on.

III. What should be Our Source of Guidance?

There are three claimants in the field of guidance and every one of them claims that it can guide humanity in the ultimate problems of life. These claimants are: (1) Science; (2) Philosophy; (3) Religion. We might take them up one by one and examine the validity of the claim of each.

(1) Science

Modern science entered the field of human thought as the all-solving branch of knowledge and the rival of religion towards the middle of the 18th century. The reason of this new attitude of Science was not that Science had found out some such unerring methods or instruments of knowledge, which could authorize it to make the claim. Rather, it was purely a sentimental affair.

Science came to the modern West from the world of Islam. It was the Muslims who, after the conquest of certain parts of Europe, specially Spain, established the first universities, of Europe, and the first Christian scientists who, after centuries of darkness and ignorance, lit the torch of scientific knowledge in England, France, Germany and so on, were pupils of Muslim masters.¹ Christianity had been anti-Science and anti-reason from the very start. Indeed, it was Christianity which extinguished whatever light of knowledge was to be found in Greece, Egypt and Syria when it became politically powerful.² Besides, as already stated, Science came to the modern West through Muslims whom the Christians regarded as their deadliest enemies. Hence, the Christian Church persecuted the scientists, burnt them at the stake and hanged them on the gallows.³

(NOTE: For 1, 2 and 3 – see the Appendix)

That violent persecution made the Western scientists the enemy not only of the Christian Church but of all Religion, and because religion concerns itself basically with the ultimate problems of human life and demands the loyalty of human beings on that score, the scientists entered the field of ultimate problems and started in the name of scientific facts to oppose the teachings of Christianity concerning such problems as the origin of man, the

origin of the world, the existence of the supernatural world and the existence of God. Thus, for instance, Darwin said that man was not a superior being as taught by religion, that he was not a being created in the image of God, but just an animal among animals – merely a higher variety of apes! Indeed, he tried to trace the origin of human beings to the lowest form of life, namely, the amoeba, and said that the species had evolved through the process of transmutation, and that the position of man as the strongest of all animals was just due to chance and not because of any Divine decree. He said many things more, and others who came after him added to the list of the mistakes of Christian teaching in the name of scientific facts.

But the question remains: "Is science really capable of answering the ultimate questions on the basis of **sure knowledge**?" The answer to this question lies in the analysis of the Scientific Method.

The scientific method of obtaining knowledge consists in observation and experiment. We shall have to examine the validity of observation in order to find out as to how far it can help us in solving and answering the ultimate problems.

Scientifically viewed, every observation is made up of three factors, namely: (1) the Observer; (2) the Object which is observed; (3) Conditions under which the observation is made. Let us examine these factors and find out whether they are variable or stable, in order to understand if we can arrive at sure knowledge of ultimate things on the basis of **Observation**.

The first factor is the **Observer**. Now, observation is bound to vary from observer to observer, because different human beings do not have similarly sharp and accurate powers of observation either as regards their physical senses of sight, smelling, hearing, taste and touch or as regards the intellect which co-ordinates the reports that the brain gets through the physical senses. For instance, a person may be color-blind or myopic and as such his observation will always differ from the observation of those who have what is called normal eyesight. Similarly, a person may be hard of hearing, or may have lost the smelling sense or the

discrimination of taste or the sense of touch, or he may be an idiot or a lunatic. It is thus a well-established fact that the first factor in every observation is a variable factor, which means that different observations can vary on the basis of this factor.

The second factor is the **Object, which is observed**. It does not require much deep thought to realize that the more immediate, the more concrete and the more comprehensive an object is, the more is the possibility of the observation being correct; and the more remote, the more subtle and the more ungraspable an object is, the less possibility is there for anything like correct observation – nay, even for observation itself. For instance, if we have to find out the chemical properties of Sodium Chloride or Calcium Carbonate, it is something easily available in its standard form. Also, it is something, which is concrete, and it is something, which can be examined in a test-tube. But even in immediate objects, if we turn to Atomic Physics and try to observe the behavior of the atom, it is bound to be a most difficult task, although the atom concerned may be one of Sodium Chloride or Calcium Carbonate. Going to remote objects and trying to observe them is a different matter altogether. For instance, if we try to observe the interplanetary strata, there are bound to be different opinions, even as they are there already. As a matter of fact, even in the case of an object like the moon which is observed and enjoyed even by the child, scientific observation begs for accuracy. For instance, till sometime back scientists had agreed on a certain calculation of the distance between the earth and the moon. But now they say it was a miscalculation and that the real distance is more than what had been believed in.

Coming now to the third factor, namely, **the conditions under which an observation is made**, we find that it also is a variable factor. For instance, if we take a straight rod and dip a portion of it in water, thereby placing one part of it in the medium of water and keeping the other part of it in medium of air, we observe that the straight rod appears tilted at the point which air and water meet, although when we view it only in one medium, which may be air or water, it always appears straight. This formal change in the appearance of the shape of the rod is due only to a change of conditions of observation and not due to any change in the

structure of the rod. Another common instance is that where the distance of an object varies. For instance, when we view sandy waste in the sultry heat of the sun from a distance, it appears to us as if it is a huge expanse of water – the common phenomenon in the deserts known as mirage. We know the false nature of this observation only when we approach that supposed lake of water. This means that if we become contented with the first observation, we would always remain in misunderstanding about the supposed lake of water.

We have seen in the foregoing that all the three factors, which constitute a scientific observation, are variable. In other words, any and every scientific observation is liable to vary in its accuracy according to any one or two or all of these factors. The margin of this possibility of error in scientific observation becomes wider and wider as the objects observed become more subtle and more distant. This means that physical science can be a good guide and source of knowledge only in our immediate, and mostly physical, problems – although even here it is not immune from error. Indeed, it has been making a lot of mistakes, as is well known to every student of the history of science. As regards the ultimate problems, which comprehend within themselves the entire universe and all aspects of existence, it should be very plain, even to a person of ordinary intelligence, that it would be extremely unscientific and even foolish to expect their sure and accurate solutions from **physical science**.

We have said in the foregoing that physical science cannot give us sure knowledge in **all cases** even as regards the immediate physical objects. We might illustrate this fact by instances. The human body is the most immediate physical object of observation for a scientific observer. But, in spite of the fact that physical science is carrying man to the moon, it has not succeeded so far even in mastering thoroughly the mysteries of the human body. For instance, the Allopathic system of Medicine and the Homoeopathic system of Medicine are both virtually equally successful in curing human diseases. But the conceptions of human nature on which they are respectively founded are diametrically opposed. This clearly means that neither of them has yet succeeded in grasping the mysteries of human nature

(even in its physical aspect) truly and comprehensively. Also, we must bear in mind that if Medical Science, which is a part of Physical Science, had genuinely succeeded in knowing with certainty, accuracy and thoroughness the physical aspect of human nature and the medicines needed for the cure of the different human diseases, the margin of failures in the cure of diseases would have become zero, - which is not the case at present. As regards the details of the human body, here again the same lack of accuracy and finality exists. For instance, there was a time when the scientists of the Allopathic school of medicine were of the opinion that the appendix and the tonsils were useless things and that they could be cast out of the body even as a precautionary measure. The scientific belief about the appendix was so vehemently stated that it gave rise even to an English proverb, namely: "as useless as an appendix". But medical thought is now directed more and more to keeping these organs intact.

We may also give an instance concerning the ever-changing character of scientific conclusions as regards the ultimate problems. We might leave out here the pre-Newtonian scientific thought, in order to be more charitable, and consider only the era starting with Newtonian Physics, which is considered to be the era of the maturity of Science. But what situation do we find here too? Sir Isaac Newton affirmed and proclaimed to the world that the universe was three-dimensional and that Space and Time were two different and independent entities. The entire scientific progress after him proceeded on this assumption. It was held by scientists to be an infallible truth, which they defended and by which they swore day in and day out. But then came Einstein who proved again **scientifically**, that Newtonian physics was all wrong in its foundations, that the universe was not three-dimensional but four-dimensional, that Time was the fourth dimension of Space and not an independent entity, that instead of immutability (on which Materialism had thrived) there was indeterminacy in the universe (which renders the affirmation of the existence of God necessary), - and Science has proceeded since then to show that Matter itself is unreal. Who knows that tomorrow-another great scientist may come and explode the Physics of Einstein also?

(2) Philosophy

All Philosophy may be broadly classified into four schools, namely: (1) Formal Rationalism; (2) Empiricism; (3) Criticism; (4) Empirical Rationalism. Of these four, nos. (2) and (3) do not deserve consideration in the background of our present problem and that for very definite reasons. No. (2) namely, Empiricism, holds that the only source of obtaining knowledge is sense-experience. It means that the empirical philosopher cannot even aim at trying to understand the whole of Reality, because in their very nature the human senses are very limited in their scope and also liable to error, as we have already seen in the section on Science. Indeed, the only natural and logical consequence of Empiricism is Skepticism, namely, that we **cannot know** Reality. In other words, the Philosophy of the Empiricist school itself asserts the incompetence and the failure of Philosophical endeavor to answer the ultimate questions. As regards no. (3) namely, Criticism, it says that both Reason and Senses are sources of knowledge but that both are **very limited** sources. Hence, the knowledge of the world, which we can get through them, can only be very limited in its scope as well as character. In other words, according to this school of Philosophy, philosophical effort can succeed only in knowing a part of Reality. This, in its turn, means that comprehensive and sure knowledge, which is the necessary condition for solving the ultimate questions successfully, cannot be obtained from Philosophy. Thus there remain only two schools of Philosophy, namely, **Formal Rationalism** and **Empirical Rationalism** where the belief is found that Philosophy can discover Ultimate Truth and which alone, therefore, deserve our consideration in connection with the present discussion. Let us examine the validity of their claim.

Formal Rationalism holds that human Reason, unaided by anything else, is capable of knowing the ultimate facts of life and the world.

Empirical Rationalism holds that Reason and Sense-Experience should combine to enable human beings to find out the Ultimate Truths and that through this combination of the sources of

knowledge Philosophy **can** solve the ultimate problems and guide humanity in that behalf.

Formal Rationalism depends wholly on Logic. Its method is to choose a hypothesis as the starting point of its investigation and on that hypothesis to build up a whole world of philosophical thought by using the instrument of Logic.

Empirical Rationalism may be better named as "Philosophy of Science". Its method is to collect and arrange the facts discovered by Science and to endeavor, by using the instrument of Reason, to form an integrated picture of the world as a whole and thereby to answer the ultimate questions.

If we evaluate Formal Rationalism, we find that, on the face of it, it is incapable of giving us any sure and accurate knowledge of the ultimate problems. This is so because its starting point is always a hypothesis, which is nothing more than a supposed idea, or at best an observation based on common sense, and every philosopher has always chosen it arbitrarily. Now, every hypothesis, especially in the realm of abstract thought, is, in the very nature of the case, unverifiable. In other words, it is uncertain. And if it is uncertain, the thought-structure built upon it and the conclusions arrived at must also be uncertain. That is, the knowledge of ultimate problems given by Formal Rationalism cannot be sure and accurate.

As regards Empirical Rationalism, its starting point consists in the scientific facts, namely, sensorial observation, and its method is to reason out the ultimate problems on their basis. But, as we have already seen in the discussion of the Scientific Method, scientific facts are at best workable hypothesis or working material on the scale of observation or the system of reference with which they are connected. Hence, they have neither finality, nor perfect accuracy, nor absolute certainty. This means that if the starting point and the working material of Empirical Rationalism lack accuracy, certainty and finality, the conclusions arrived at will also suffer from the same shortcomings. In other words, a solution of the ultimate problems on the basis of sure

knowledge is impossible even for the Empirical Rationalist school of Philosophy.

An eminent scientific thinker of modern times admits this truth in the following words: "Many people wrongly think that logical mechanisms are 'standard' and that logical reasoning, and all the more so mathematical reasoning, are inevitably 'true'. This is not always the case. We must beware of the process of human thought because, in the first place, the starting point is often a sensorial observation (therefore of doubtful value) or an observation based on common sense. Now common sense cannot be trusted. It is common sense that leads us to think that the earth is flat; that two plumb lines are parallel (they are both directed toward the center of the earth and consequently form an angle); that motion in a straight line exists, which is absolutely false as we have to take into consideration not only the motion of the earth around its axis and around the sun, and that of the entire orbit of the earth, but also the motion of the whole solar system toward the constellation Hercules, etc. As a result, a bullet or an airplane, which seems to move in a straight line with respect to the earth, for a certain length of time, in reality follows a trajectory more closely resembling a kind of corkscrew with respect to a vaster system of reference, the nearest stars for instance. Common sense tells us that the edge of a razor blade is a continuous straight line, but if we examine it under microscopes it resembles a wavy line drawn by a child. Common sense tells us that a piece of steel is solid: X-rays show us that it is porous, and the modern theories of matter teach us that it is in reality made up of trillions of animated, miniature universes having extraordinary rapid movements and no contact with each other.

"If therefore, the starting point, the premise, of a reasoning is false, the conclusion will, necessarily, logically, be false.

"As we have no other means of knowing and describing nature but those given us by our senses and our reasoning faculties – i.e., by our brain cells – we must be extremely cautious and never forget the **relativity** of the picture which we construct – a

relativity with respect to the recording instrument, man." (Lecomte du Nouy in **Human Destiny**, pp. 5,6).

The competence of Science and Philosophy in unraveling the mysteries of the ultimate problems can be examined through another argument also. As stated in the foregoing, the ultimate problems refer to three main heads, namely: Man, Universe and God. Let us take here the case of Man himself. Can Science or Philosophy or both combined provide us true and accurate knowledge of the ultimate problems, which refer to Man? If we consider this question cool-mindedly and dispassionately, we find that neither the origin nor the constitution nor the functioning of man can be reasonably conceived to exist in a vacuum. The individual human being is a part of the human race. The human race, in its turn, is part of a larger whole, namely, the animal world. The animal world, in its turn, is part of a larger whole, namely, the organic world (which includes plant life). The organic world, in its turn, is part of a larger whole, namely, the Earth (which includes its organic world and the inorganic world both). The Earth, in its turn, is part of a larger whole, namely, our solar system. Our solar system, in its turn, is **immediately** part of a galaxy of **unknown** number of solar systems and **ultimately** a part of the entire Universe which is **unknown to us as a whole thing** and which, according to Modern Science, should be termed infinite both in Space and Time, and is, therefore, incapable of being grasped in knowledge by our finite powers of perception and reasoning, both logical and mathematical. Thus, the human individual is ultimately part and parcel of a universe, which, in its origin, constitution and purpose, is **unknowable as a whole thing**.

Now, if we wish to obtain true, accurate and comprehensive knowledge of the **fundamental laws** which govern the existence of the human individual, we find that just as the human individual does not exist in a vacuum the laws also which govern his existence do not exist in a vacuum. For, the system of laws, which governs the existence of the human individual, is part of a larger and higher whole, namely, the system of laws that governs humanity as an entity. This larger and higher system of laws is, in its turn, part of another system which is higher and larger than it;

and this series goes on – the levels of laws rise higher and higher, tier after tier, until we reach the level which we are confronted with the laws which govern the entire universe **as an entity** and **fundamentally**.

We are now heading towards the conclusion. To know the nature and destiny of the part we must know the nature and destiny of the whole. Hence, to know the nature and destiny of the human individual we must know the nature and destiny of the whole of which it is a part. As we have already seen, **immediately** it is part of the human race. But the human race itself is not the **final whole**. Rather, it is part of a larger whole, and that larger whole is part of a still larger whole, until, if we were to stop even at physical concepts only, we reach the final **whole** which is known as the Physical Universe. This means that unless we know the nature and destiny of the universe, we cannot know the nature and destiny of anything, which forms part of it, including the human individual.

All the above discussions lead us positively to the conclusion that neither Science nor Philosophy can ever be capable of giving accurate answers to our ultimate questions on the basis of sure knowledge. And those answers which they have been giving, or might give in future, have been, and shall always be, at best approximations in the nature of partial truths and, in most instances, what the following verse of the Holy Qur'an calls "conjectures".

"But they have no **knowledge** thereof. They follow nothing but **conjecture**; and conjecture avails nothing against Truth." (LIII: 28).

The question now is: If Science and Philosophy fail in guiding us on ultimate problems, is that the end of the road, or is there a way out? The answer is: Yes, there is a way – the way of Religion.

(3) Religion

The plausibility of the claim of Religion to answer our ultimate questions consists in the **source** of knowledge. Among the

various religions of the world, Islam agrees with us that the human faculties of sense and reasoning are, in their very nature, incapable of arriving at accurate and sure knowledge of the ultimate facts both through logical reasoning and mathematical reasoning. But side by side with that it gives us a message of home and imparts to us a very plain and convincing guidance in that behalf. That guidance may be stated as follows:

There are two factors in every act of knowledge, namely, the Subject and the Object. As regards the **process of knowledge**, it is possible in two ways, namely: (1) the subject may embrace the object with the instruments of knowledge, which, in the case of man, are senses and reasoning; (2) the object may **reveal** itself to the subject.

The usual path of knowledge is the first one, and it is this, which Science and Philosophy employ. And because the finite cannot embrace the infinite, the attempts of Science and Philosophy at solving the ultimate problems end in failure.

The second path of knowledge is the path of **Revealed Religion**. All scientists also know that this path is a matter of experience in the scientific field. For instance, there are planets, which are far away from the farthest horizon, which the most advanced instruments of astronomy have been able to penetrate. These planets enter that horizon only for a while after millions of years. Thus, instead of the powers of the astronomical instruments going out, so to say, to embrace them, they themselves **reveal** their existence by moving for a while into their embrace from a position where their existence cannot be known, and after that **revelation** they again disappear for millions of years into the Unknown. Those whose gaze is fixed and whose instruments of observation are focused on that horizon see them and **know** them, while others affirm their existence after only **on the basis of authority**, because verification through observation does not remain possible after the disappearance of those planets.

This much about the physical world-the world of sense experience-the world, which in quality as well as quantity is only a **part** of the Unknown and Infinite Universe. But it brings home

to us an important fact. The farther removed a thing is quantitatively (i.e., in Space or Time), the greater becomes the necessity for the first path of knowledge to give place to the second path, i.e., Revelation.

Islam emphasizes this all-important fact of Revelation. It affirms the existence of God and says that He is the Creator and Cherisher of the Universe. Also that He is All-Powerful, All-knowing and Omnipresent. He possesses perfect knowledge of the origin, the constitution and the function of everything, and His knowledge comprehends the past, the present and the future. And He not only possesses that knowledge but He has also revealed to humanity the correct guidance on the ultimate and intricate problems which defy correct and sure solution by means of senses and reason. His revelations came, much like the distant planets mentioned in the foregoing scientific argument, through the Spiritual Luminaries who appeared on the horizon of humanity from time to time. Those Spiritual Luminaries included men like Adam, Abraham, Moses, Jesus, the last among them being Muhammad (Diving Peace and Blessings be with him and all the other Messengers of God); and the last Revealed Book is the Holy Qur'an.

(That the personality of the Holy Prophet Muhammad (Peace be on him) and the Holy Qur'an are in themselves perfect proofs of the fact that God has revealed His Guidance to humanity shall be taken up in a separate treatise.)

Appendix

References to the respective attitudes of Islam and Christianity towards Science have been made on page 6. The truth of the statements made there is known to all the scholars of history and has been stated by the most eminent authorities of the West and the East. For instance, the renowned British Orientalist Marmaduke Pickthall says:

"The Qur'an undoubtedly gave a great impetus to learning, especially in the field of natural science; and if, as some modern writers have declared, the inductive method to which all the practical modern discoveries are chiefly owing, can be traced to

it, then it may be called the cause of modern scientific and material progress.

"The Muslims set out on their search for learning in the name of God at a time when Christians were destroying all the learning of the ancients in the name of Christ. They had destroyed the Library at Alexandria; they had murdered many philosophers including the beautiful Hypatia. Learning was for them a devil's snare beloved of the pagans. They had no injunction to 'seek knowledge even though it were in China'. The priests publicly burned the manuscripts of Greek and Roman learning.

"...the revolving terrestrial globe happened to be part of the educational equipment of the Spanish Muslim University at the time when the learned Bruno was burnt at a slow fire by the Inquisition for upholding the Copernican theory of the Earth, and before the even greater Galileo was forced by persecution to recant and sign a solemn declaration that the Earth was fixed immovably, as the Bible said it was. He is said to have murmured under his breath, as he put his name to the lie: **E pur is muove** ("And yet it moves"). It was from the teaching of the Spanish Muslim Universities that Columbus got his notion that the world was round, though he too was forced by persecution to recant it afterwards. When we remember that the Spanish Muslim Universities in the time of the Khalifa Abdur Rahman III and the Eastern Muslim Universities in the time of Al Ma'mun – I mention these two monarchs because it is specially recorded of their times – welcomed Christian and Jewish students equally with Muslims – not only that, but entertained them at the Government expense: and that hundreds of Christian students from the South of Europe and the countries of the East took advantage of the chance to escape from ecclesiastical leading strings; we can easily perceive what a debt of gratitude modern European progress owes to Islam, while it owes nothing whatsoever to the Christian Church, which persecuted, tortured, even burnt the learned." (**Islamic Culture**, pp. 64, 67, 68)

The learned author of *Islam in the World* says (pp. 142-149):-

"The influence of the powerful movement of Islamic culture in Spain rapidly made itself felt throughout Europe. Petrus Alphonsi (b.1602) who studied at the Arabian medical schools, came to England from Spain as Physician to king Henri I and ,in 1120, collaborated with Walcher ,Prior of Malvern , in the production of a translation of Alfonsi's astronomical treatise ,based upon Arabian sources. In England their united effort represents the first impact of Arabian learning. Its effect was rapid, for immediately afterwards Adelard of Bath earned the distinction of being the first prominent European man of science, outside Spain, to come to Toledo and make a special study of Arabian learning. The cultural links thus formed between England and Muslim Spain were destined to produce important results. They stimulated in England the desire for the new philosophical and scientific learning and led to the achievements of Michael Scot (c. 1175-1232) and Roger Bacon (1214-1294).

"Scot proceeded to Toledo in order to gain a knowledge of Arabic and of Arabian philosophy. At Oxford, Roger Bacon achieved brilliant success as an exponent of the new Arabian-Aristotelian philosophy. In the library of the Dean and Chapter of Canterbury Cathedral is a late thirteenth century illuminated manuscript, 'Vetus Logica,' the earliest known commentary on Aristotle's logic produced in England following the Arabian 'renaissance' of Aristotelian philosophy. Amongst those scholars who came to Spain from Britain were Robert of England (flourished 1143), first translator of the Qur'an, Daniel Morley (flourished 1170), etc. Roger Bacon's work 'Optics' was based on Alhazen's 'Thesaurus Opticae.' The alchemical teachings of Jabir ibn Hayyan (Geber) and other Arabian writers, are apparent in the works of Albert Magnus, Vincent of Beauvais, etc.

"In a recent study made by the 'Madrid School of Spanish Arabists', (a school which is concerned with the study of Islamic civilisation in Spain and of its influence on Christian civilization in the Iberian peninsula as well as in the rest of Europe), Julian Ribera demonstrates that many of the institutions of Christian Spain were nothing but a copy or an imitation of similar institutions of Muslim Spain. He discovered Arabian sources for the doctrines of certain thinkers and certain poetic forms of songs

of the Middle Ages, and for the mediaeval Andalusian music and songs of the troubadours, trouveres and minnesingers. Don Miguel Asin Palacios, in studying the origins of philosophy in Spain, traces the influence of such Arabian thinkers as Avempace, Averroes, Abenarabi, Abenmasarra and others. He, also, establishes the point that one should seek the key of the Divine Comedy of Dante in the Islamic legends of the nocturnal voyage of Muhammad. It is further shown that historiographers, mathematicians and lexicologists, etc., owe much to their Muslim predecessors of Spain.

"Emmanuel Deutsuh says: 'By the aid of the Qur'an the Arabs conquered a world greater than that of Alexander the Great, greater than that of Rome and in as many tens of years as the latter had wanted hundreds to accomplish her conquest; by the aid of which they, alone of all the Semites, came as tradesmen, and the Jews as fugitives or captives alone, while darkness lay around, to raise up the wisdom and knowledge of Hellas from the dead, to teach philosophy, medicine, astronomy and the golden art of song to the West as well as to the East, to stand at the cradle of modern science, and to cause us late epigone for ever to weep over the day when Granada fell'."