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TITLE	A Comparative Analysis of Islamic and Postmodernist Critiques of Science

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A COMPARATIVE ANALYSIS OF ISLAMIC AND POSTMODERNIST CRITIQUES OF SCIENCE

ABSTRACT

In this study, we attempt to look at the Western and Islamic critiques of science in the context of modernity. Science is one of the main drivers of modernity, and therefore, reaction to modernity is often discussed in response to modern science and Islamic science discourse. The issue of modernity covers the wider issues across various disciplines such as philosophy, history and sociology. Among the characteristics associated with modernity that have been debated by Western and Islamic scholars such as rationality, objectivity, empiricism, scientific method, the concept of progress, and secularism, and the critique of science by the Western and Islamic scholars by using argument in history and philosophy of science. In order to understand the critical interpretation, we will look at the critiques of science presented by Kuhn, Feyerabend, and the post-modernists. From the Islamic perspective, the opinion from selected Muslim thinkers, such are Nasr, Syed Muhammad Naquib, and other local Malaysian scholars such as Osman Bakar and Shaharir Mohammad Zain will be discussed to understand the picture of Islamic perspective on science, and how they perceive modern science from the critical point of view. Although both Western and Islamic tradition arise from different perspectives of intellectual traditions, but there are potentials to discuss the relationship between these two traditions especially in the aspects of similarity in the issues discussed on modernity. The comparison between two traditions will be also included differences on the issues that have been discussed from the critique of science. Through the discussion in this study, it can be seen that the discourse of science in the context of modernity in both Western and Islamic intellectual tradition are driven by the same factor, how to deal with questions and challenges associated with science and modernity. However, clear differences between the two traditions, the discourse of science from Islamic perspective associated with the Islamic ethical system, and the Islamic worldview is considered medieval and neo-platonist. On the other hand, Western intellectual tradition is influenced by the traditions of Western counter-Enlightenment thought and the Enlightenment, and re-emerged as modernist and postmodernist thought.

1.0 Introduction

The issue of modernity is discussed in many disciplines, such are in philosophy, history and sociology. Scholars have attempted to define the meaning and content of modernity and what makes it different with the pre- and post-modernity. Its essential features, among others, are rationality, objectivity, empiricism, scientific method, the concept of progress, and secularism. The first section of this paper describes on the discourse of philosophy of science in the Western tradition, and followed by the discourse on the philosophy of science in the Islamic tradition. Then, a brief comparison between both traditions will be provided. There are different responses towards the same problem, namely how to deal with modernity.

2.0 Kuhn and Feyerabend Critiques of Modernist image of science

The critique against the philosophy of science developed by Popper is coming from Thomas Kuhn. Kuhn (1970) adopts a historical approach in his philosophy of science, and maintains the importance of historical perspective in understanding the nature of science. According to Kuhn, what has been said by the philosophers of science cannot be supported by evidences from the history of science. From the history of science, it would be obvious that the image of science projected by the Logical Positivist or Karl Popper has strayed away from the real nature of science. This new historical factor brought by Kuhn has challenged the common philosophical approach in science. This is due to the fact that philosophy is normative in nature while history is descriptive. In his *The Structure of Scientific Revolutions* (1962, 1970), Kuhn shows, by using history of science, that the process of paradigm shifts in science do not occur based upon rational factors, but rather upon non-rational factors such as psychology and sociology. He also argues that the concept of scientific change is indefensible. It is due to the fact that scientific paradigms are incommensurable and therefore, it cannot be evaluated which scientific paradigm is better. Furthermore, such changes, for instance the evolution of species in Darwin evolutionary theory, has no objective aim and thereby do not move towards any specific direction such as "true theory", as pointed out by Popper. This view has rejected the modernist image of science such as rational, objective, true and progressive, and the precursor for a more critical approach towards science, and this view has been used by the postmodernists.

After that, Imre Lakatos comes out with his new philosophy of science which aims at upholding the epistemological status of science. He argues that history of science would exhibit the rationality of science, not vice versa. It should be noted that Lakatos emphasizes on intellectual history that is the history of scientific ideas. He argues that scientific change is driven only by rational and logical factors, rather than non-rational ones (Lakatos 1976). Thus, Lakatos' effort can be considered as the last attempt to defend the modernist image of science before it is overshadowed by historical studies of science by the social constructivists, which generally deny the autonomy of reason itself, and impose a socialistic interpretation of science.

Another critique to the modernist image of science is from Paul Feyerabend. He criticizes the view that there is a certain "methodological rules" which is responsible for scientific success. He also criticizes the view that the supremacy of science lies on its rules, that is scientific

method. According to Feyerabend, there is no such a thing called scientific method; it is nothing more than a myth made up by the rationalists. He thus tries to dispel such myth by showing that science progresses by the scientists never deploy the so-called scientific method. For instance: Copernican theory is not likely to advance if the scientists follow the "rules" such as the consistency criterion and empirical evidences.

Feyerabend criticism against the theory of scientific method can be considered as a strategy to achieve a broader aim: to deny the privileged status of science in contemporary Western culture. Finally, what he is trying to say here is that science is one of the varied human traditions, and it has no privilege over other traditions. Feyerabend also opposes the idea that the advantage of science lies on the "scientific method" or "scientific rationality". To him, science progress in accord with the principle of anything goes and he wishes to propose a new image of science as oppose to the rationalist or modernist.

In his view, science has become dogmatic and ideological, and gives no room for internal critics, while indifferent to external critics. It is very difficult to critic any theory as it gains the scientific status. To dispel scientific myths and allow other non-scientific traditions enjoy the same status as science, it is imperative to refuse the assumption that there is a special scientific method used by scientists. A pluralistic approach—in its widest sense, including epistemological, methodological and theoretical pluralism—would also allow other non-scientific traditions enjoy the same status as science. Thus, it is appropriate to suggest that Feyerabend's polemics on the nature of scientific method and pluralism is a strategy to challenge the epistemic status of science.

2.1 Postmodernists Critique against Science and Modernity

Postmodernism, as a school of philosophy, is not monolithic, and influenced by many school of thought such as existentialism, phenomenology, deconstructionism, etc. Even the postmodernists have a different point of views among themselves such as Baudrillard, Foucault, Derrida and Rorty. Baudrillard, for example, is the most extreme where he seeks to cut off the connection between post-modernism and modernism itself. On the other hand, Rorty is more moderate and seeks to maintain a dialogue between modernism and post-modernism, although he keeps a critical attitude towards modernist thought. The postmodernist phenomenon in the

Western intellectual history is much more comprehensive, and it is including such fields as literature, art, philosophy, social sciences, politics, architecture, culture and so on (Best and Kellner 1997). It also influences the historical growth of philosophy of science since the 1970s, beginning with critiques of science by Kuhn, Feyerabend, and the Edinburgh School with its sociology of science. For them and the subsequent critics, science no longer has any special epistemic status over other sciences, and cannot be regarded as a standard and model for other sciences.

In the field of history and philosophy of science, the postmodernist writings take in many forms. Some of them have been influenced by continental phenomenology, while others influenced by Richard Rorty, Wittgenstein' philosophy of language, social constructivism, and deconstructionism. All of them belong to the postmodernism, and they reject the modernist science and worldview. They refuse to accept the modernist image of science such as objective, rational and true. The essential features of postmodernism, among others, are (Hart 2004; Best & Kellner 1997; and Gellner 1992):

(i) Acceptance of relativism and pluralism, and the rejection of the concept of absolute truth.

(ii) The rejection of *'grand narrative'* and the acceptance of *'local knowledge'*. They rejected comprehensive and *foundationalist* theories about science, as presented by Logical Positivism.

(iii) Reject the notion that language has a fixed reference, unique and objective. This notion first put forward by Wittgenstein in the 1950s, and has affected post-modernist thinking about the relationship between language and reality.

(iv) Reject the *binary opposition* or *dichotomy* that makes a strict distinction between the two concepts, for example east and west, the natural world and the human world, objective and subjective, theory and observations, and so forth.

(v) Reject the belief that the concept should be understood in an *essentialist* sense, that is the essence of it as indicating a fact that exists independently. Its opposite is *anti-essentialism* or *constructivism*, which regards a concept as a conceptual structure that does not refer to a natural fact.

The social constructivists, for example, regard science does not reflect the truth about the universe, but it is merely constructed by particular culture or society by incorporating its own

ideologies and cultural characteristics into its system of knowledge. For instance, Darwinian evolutionary theory reflects the social orders during the reign of Queen Victoria in Britain, with a sharp class struggle in British society. Shapin and Schaffer in their *Leviathan and the Air Pump* (1985) try to show how politics influence the use of experimental method in the study of gas phenomena in the 17th century England. It should be noted that this study is not genuine historical writing; but they have certain epistemological goal—as to reveal, through historical descriptions, how external factors influence the formation of science. They try to convince that science is not an objective reflection of nature, but it is a human invention in which embedded their interests.

In the discussion on the concepts of objectivity, rationality and truth by Richard Rorty, he rejects the correspondence theory and interprets those concepts from pragmatic point of view supported by Donald Davidson's theory which denied the absolute relation between language and reality. The result is a more humanistic and socialistic interpretation of such concepts rather than an absolute truth of nature. What is meant by objective, for instance, is not a real characteristic of nature without the influence of a subject, but interpreted as 'consensus' reached at by researchers through agreed methodology. Rorty also rejects the view that rationality is based on well-formulated criteria in making a successful assessment or action and he proposes a more humanistic and ethical conception of rationality. All of these are aimed at making the status of science closer to humanity, rather than the transcendental nature. If the modernists associate science with the truth about natural world, but the postmodernists are eager to break this relationship and turn it more towards humanistic and social characters.

3.0 The Discourse of Islamic Philosophy of Science

The second section in this paper will discuss the discourse on Islamic philosophy of science. It is due to its underlying Islamic perspectives which act as guiding principles in dealing with modern science. The discourse of Islamic Science is a direct response to the encounter between modern science and Islam to overcome the crisis in the Islamic world. This crisis is due to the contradictory meaning of modern science with traditional knowledge which refers to *al-'ilm* or *scientia* (Nasr 1994). Modern science is regarded as the best form of knowledge about natural world, and it independent of any metaphysical or spiritual aspect. As a response to this

existing conception of science, some Muslim intellectuals have attempted at providing a concept of Islamic science.

Generally, there are two different views of the meaning of Islamic Science, namely: (i) Islamic Science from its historical perspective; and (ii) Islamic Science as a programme of Islamisation of science. The first view emphasises on science which had been developed in the Islamic civilization. The second view, it emphasises the Islamic aspect of science itself and it widely expounded by Muslim intellectuals such as Seyyed Hossein Nasr, Syed Naquib al-Attas, and others. Thus, this aspect of Islamic science that we shall dwell in this section is based on the perspective of Nasr and Naquib al-Attas. In general, Islamic science is defined based on its unique spiritual aspect and thus makes it in harmony with religious principles of Islam.

3.1 Seyyed Hossein Nasr on Islamic Science

Seyyed Hossein Nasr is one of the earliest scholars who promote the concept of Islamic Science. Among the Muslim scholars, Nasr is one of the few who has an extensive knowledge of modern science, and he emphasizes on the metaphysical and traditional religious views of science. Throughout his works, Nasr explains about modern science from its historical perspective, its philosophical premises and claims, and the environmental crises brought by the unquestioned acceptance of modern science and technology.

The most important aspect of Nasr's critique against modern science lies on the fact that modern science separates its epistemological foundation from metaphysics, and it refuses to accept the authority which would establish the boundary of its legitimate activity (Nasr 1989: 179). Modern science is developed based on philosophy which rejected the hierarchies of being and of knowledge and reduced all reality to physical domain only, and denied the existence of non-scientific worldviews. And through these secular philosophical assumptions, metaphysical truths have been rejected in the making of scientific knowledge. In addition, modern science is separated from the sacred, which is regarded as meaningless in its secular worldview.

In his notion of Islamic science, Nasr interprets that the Islamic science which has been developed by Muslim scientists is based on an analytic study of nature within the matrix of Islamic revelation. The essential part of this revelation is *al-Tawhid*, the principle of unity which underlies the unity and interrelatedness of the world of nature. Although this principle of Unity

in its ordinary sense refers to the theological concept that there is no divinity but God, its ontological and metaphysical meanings refers to the knowledge about natural world from a single source, that is from the Divine. For Nasr, the primary goal of Islamic sciences is to reveal this fundamental concept of unity and to show 'the unity and interrelatedness of all that exists' in this world. The natural sciences in Islamic and other oriental civilizations were always cultivated within an order which was dominated by hierarchy and integration (Nasr 2001: 464).

3.2 Syed Muhammad Naquib al-Attas on Islamic Science

The second perspective on Islamic science is from Syed Muhammad Naquib al-Attas. He is also one of the most prominent proponents of Islamic philosophy of science. But, unlike Nasr, he begins his critique of modern science from the point of secularism. According to him, secularism is the product of long history of philosophical and metaphysical conflict in the religious and purely rationalistic worldview of Western man (al-Attas 1993: 20).

Al-Attas outlines the concept of secularism in the West, refers to the misapplication of Greek philosophy in Western theology and metaphysics, which was led to the Renaissance in the 15th and 16th centuries, and then in the 17th century led to the scientific revolution enunciated by Descartes, and successively in the 18th and 19th centuries and in our contemporary times, to atheism and agnosticism, to utilitarianism, materialism, evolutionism and historicism. According to al-Attas, the intrinsic element in secularization is the disenchantment of nature.

Al-Attas maintains that secularization has eliminated our understanding of science from mystical and spiritual conception of nature. Thus, modern science is one of the products from process of secularization, al-Attas suggests that we should critically examine 'its methods, concepts, presuppositions and symbols; its empirical and rational aspects, and those impinging upon values and ethics; its interpretation of origins; its theory of knowledge; its presuppositions on the existence of an external world, and the rationality of natural processes; its theory of the universe; its classification of the sciences; its limitations and interrelations with one another of the sciences, and its social relations.

From his critical examination, and based upon the standpoint of the Islamic philosophical and scientific tradition as integrated into a coherent metaphysical system, al-Attas maintains that there are many important similarities are found between the Islamic standpoint and the modern

philosophy and science from the point of their external aspects, such as: in terms of the sources of knowledge; the unity of the rational and empirical ways of knowing; the combination of realism, idealism, and pragmatism as the cognitive foundation of a philosophy of science.

There are, however, some fundamental and incompatible differences between both concepts of Islamic philosophy of science and modern science. The most philosophical difference is that Islamic philosophy of science regards Revelation as the source of knowledge ultimate reality and truth, which provides the foundation for a metaphysical framework. We can develop our philosophy of science as an integrated system to describe about reality and truth, which is not restricted to the methods of the secular philosophy of modern science which emphasized on secular rationalism and empiricism. The difference between both concepts of science in Islamic science and modern science lie in the problems of the sources and methods of knowledge. As apparently opposed to modern science, al-Attas states that the knowledge of Islamic science comes from God and is acquired through the senses, true report based on authority, sound reason, and intuition.

3.3 Osman Bakar

Osman Bakar is a deputy CEO at International Institute of Advanced Islamic Studies (IAIS). His contributions are mainly in the history and philosophy of Islamic science, and cross-cultural perspectives on science, religion and civilisation. His idea of Islamic science encompasses metaphysical and cosmological foundations of science, methodology of science, critique on evolutionary theory and philosophical perspectives on science and Islam. For instance, in *Tawhid and Science* (2008), he elucidated his intellectual concerns with issues on science and Islam. Basically his idea of Islamic science is 'sciences which have been cultivated in Islamic culture and civilization' and those sciences are fit to be called Islamic science because they are closely related to the fundamental teaching of Islam namely the principle of *tawhid.*[i] He believes that some of the Islamic sciences still survive until today such as Islamic medicine.[ii] Since he believes that Islamic science is based on the universal principles of monotheism and perennial epistemological principles (Osman Bakar 2008), he is therefore concerned with the existence of Islamic science in the past, and the possible revival of Islamic science of the present

and the future. Islamic science is a kind of science which is needed by the *ummah* and for this reason we need to understand the spiritual and philosophical dimensions of Islamic science itself.

However, he admits that Islamic science shares certain characteristics with modern science, such as rationality, the adoption of scientific and experimental methods, etc. On other hand, there are differences between Islamic science and modern science particularly in the philosophical principles such as the metaphysical and cosmological foundations of both sciences. He stresses on the principle of *tawhid* and its implications for the development of inter-civilizational dialogue. This work is based on Islamic foundations in the traditionalist philosophical school, and considered the contributions to science from other civilizations as well, such as sciences from Chinese civilization, Indian civilization and Islamic civilization. Every science cultivated within a historical and cultural space possesses a universal dimension which is inherent to the value system of that civilization.

3.4 Shaharir Mohamad Zain.

Shaharir Mohamad Zain is a fellow at Centre for Civilisational Dialogue, University of Malaya. His expertise is in Mathematical Physics and also in history and philosophy of science particularly in Islamization of Mathematics. His main contribution is on the indigenization of science and technology, and the discourse on Islamization. He emphasized that these ideas also stress on the psychological, spiritual and moral aspect of development and progress in Malaysia, and in line with our concept of "progress" according to our own mould. Indigenization of science is the process of making science as an integral part of culture, society or nation and is the product of our civilization. In addition, the concept of indigenization of science must involve the aspect of ethnoscience which he believes is a useful tool for strengthening the sense of patriotism and nationalism, and this approach is considered essential to make science culturally and psychologically more acceptable and easier to understand (Shaharir 1998: 56). Besides that, he is one of the academicians who believes that Bahasa Melayu must be used as a medium of science education in Malaysia in order to achieve the concept of progress according to our own mould and in improving science education and creativity. The development of Islamic science must be driven by an Islamic paradigm (Shaharir 1998). According to the concept of Islamic science by

Shaharir, Islamization of science involves engaging in a critique of contemporary scientific knowledge, and attempting to make improvements from an Islamic perspective, and finally to suggest an alternative theory to replace the previous theory.[iii]

3.5 A Brief Comparison between the views of Muslim Intellectuals on Science

From the foregoing discussion, there are some similarities and differences in the thoughts of Nasr and al-Attas on Islamic science. Both of them take different perspectives in examining important issues pertaining to science and Islam. Nasr's approach is traditional or perennialist in nature as he promotes the metaphysical teachings of nature derived from the Abrahamic religions and other oriental traditions as well as Greek spiritual teachings, all of which contain the same doctrine of the relationship between God and nature.

Al-Attas however takes an exclusivist stand in which he only adheres to the Islamic teachings alone and neglects other religious teachings pertaining to nature. Through his historical approach, al-Attas comes to the conclusion that the very problem of modern science lies in the secular worldview which marked by the change from spiritual worldview to material and rational worldview beginning in the Greek civilization up to the contemporary Western civilization.

Osman Bakar is similar with Nasr which takes philosophical approach to critique modern science, and as an alternative, he emphasizes on Islamic science which has element of Islamic tradition, contemporary and universal. Besides that, Shaharir critiques modern science from its theoretical part and proposes Islamization of science particularly in Mathematics and physics to replace the modern scientific theory. In addition, he put emphasis on the indigenization of science and technology in Malaysia.

In terms of their similarities, Nasr, al-Attas, Osman Bakar, and Shaharir Mohamad Zain share the same themes of critique of modern science as both of them dealing from the aspects of metaphysics and the Islamic science. Both of them believe that the biggest mistake of modern science is that it divorced itself from metaphysics which makes modern men so arrogant to claim that they can explain natural phenomena based on rational and empirical principles without any reference to God.

4.0 Comparative Analysis on Western and Islamic Critique of Science

The discourse of Islamic science is a form of intellectual response towards modernity initiated by Muslim intellectuals all over the world. This intellectual response is directed against modern science as it is the most important element in the birth of modernity. This response obviously exhibits the encounter between modernity and traditional worldview, and the role Muslim intellectuals are to defend religious teachings and traditional knowledge in the contemporary world. At the same time, it is also an effort to preserve the Islamic identity in encountering the modernization. However, this response should not be understood as a total opposition to the West.

From our briefly discussion on the intellectual responses towards modernity in the West and Islam scholars, it can be observed that there are certain similarities and differences between these responses. In the early section of this paper, there are substantive reactions towards modernity within the Western intellectual tradition itself to critique the epistemic status of modern science by the post-modernists. The similar critique of such epistemic status can also be found in Muslim scholars such as Nasr and al-Attas. These epistemic critiques of science do not imply that these critics totally reject modern science and modernity, but we should critically examine them before we adopt science into our own culture. In other words, the rejection of modern science is based on the secular epistemological worldview of modernity itself and the dominant secular philosophical assumptions of science as have been developed by the modernists.

The second similarity between both intellectual responses is their refusal in admitting modern science as the only form of knowledge with its superior epistemic status, and it has rejected other forms of knowledge such as humanities, metaphysics and revelation. Both responses reject the view that modern science is objective, rational, universal and true. From the Islamic epistemological perspective, science is inseparable with other forms of knowledge such as humanities and metaphysics, but in fact it is a combination of revealed knowledge (including metaphysics) and all other sciences obtained through human intellectual activities. Moreover, science should be closely tied up with its socio-cultural context as has been emphasised by the posts-modernists as they interpret science as socio-cultural activity of particular society, while the social constructivists reject the assumption of science as a true and objective representation of the natural world. From the Islamic perspective, scientific knowledge is not merely to fulfil

certain social needs and functions, but it has higher goal towards self-perfection. Nasr's and al-Attas' critiques of science are more focussing on the lack of metaphysical vision in the scientific worldview. Their critiques emphasize on the metaphysical level of science, without affecting the content of science itself. In short, their efforts are directed towards restoring and re-asserting the significance of metaphysical element of nature which will effectively complement with the quantitative nature of modern science.

The third similarity between both critiques is that they emphasise on the limit of science and the need to acknowledge other forms of knowledge in explaining the natural phenomena. These Western and Muslim critiques the limits of rationalism in modern science, which also reflect their distrust to modernity. Modern science has corroded the transcendental frameworks such as divine law, which gives life its meaning and moral judgments to the power of truth, since it insists that all knowledge is obtained through reason (Euben 1997).

On the other hand, the difference between both critiques lies in the fact that the Islamic critics adopt a constructivist approach (not in the sense of social constructivism), while their Western counterparts follow a deconstructivist approach in criticising modern science (Passmore 1978). This constructivist approach shows their determination in shaping and formulating science based upon authentic Islamic perspectives to replace secular modern science. This critique has a goal to expose the weaknesses of modern scientific epistemology and thereby replace it with Islamic epistemology. However, as has been pointed out in previous section, this critique is not directed to the content of science, but more towards the cultural aspect and values of science which should undergo certain adjustments before it could be integrated into Islamic scientific framework. They do not totally reject modern science, but only reject its false philosophical assumptions which sustain the modernist scientific worldview. And through this effort, it is not only to institutionalise science in the Islamic society, but also to make its application well-suited in the cultural milieu of Islamic society. This approach is different from the deconstructivist which seeks to give rooms for other human sciences in reshaping the orientation of modern science, for instance, the work of Rorty seeks to re-establish equal status of other human knowledge with modern science. The epistemological foundation of Western critique of science is different from the Islamic response as they based their critiques upon postmodernist, humanistic and secular perspectives.

Muslim intellectuals regard modern science as only limited to the physical domain and it is not concerned with the whole reality of nature. From the Islamic perspective, as discussed by Nasr and al-Attas, nature has multiple levels of reality, from spiritual to physical. Thus knowledge itself has different hierarchies which correspond to such levels of reality, and they are related to each other and closely tied up with the revealed knowledge. In this hierarchy, divine knowledge is placed at the highest level while science is placed at the lower level. Furthermore, in the case of Nasr, he does not approach the problem of science from Islamic point of view alone, but he also presents his view of science on the basis of traditional doctrines of the East such as Hinduism, Buddhism, Taoism, etc., as he believes that all these traditional doctrines were coming from the same Divine Origin but revealed in different forms to particular community. On the contrary, the post-modernist critics of science, like the modernists, refuse the existence of spiritual reality and base their critiques on humanism and social theories alone. Most of them are influenced by the development of sociology of knowledge in the Western intellectual tradition. In the case of the social constructivists, for instance, they regard science as a product of particular society, based upon their interests and worldview rather than an objective picture of natural world. The concept of objectivity is therefore replaced by sociology of knowledge. In Mainnheim's analysis, socio-cultural context plays important role in the development of knowledge, and science itself is a product of social activity of particular society. Another postmodernist critique, Richard Rorty, emphasises the concept of rationality with a strong elements of humanism and ethical action by which he seeks to bridge the gap between modern science and its humanistic and social aspects.

Lastly, the Muslim critique of science is different from the Western critique of science, and they believe in the idea of Absolute Truth which is identified with the Truth of Islam. Islam regards truth as absolute and immutable as it is based upon Revelation. For the Western critics of modern science, they regard scientific truth as not absolute, and adopt a relativist attitude towards knowledge—that there is no absolute truth in knowledge as it is relative to some particular frame of reference, such as social and cultural context, and thus it is always subjected to future changes. The relativist attitude also leads to the pluralistic view of knowledge which assumes that all knowledge is equally true in the specific socio-cultural context in which they arise. From this point of view, the postmodernists go on to assume that science has no absolute

objectivity and rationality since it contains certain intrinsic characters of particular society. It is therefore the postmodernists denied science as a yardstick for modern society.

5.0 Conclusion

The critiques of science in both Islamic and Western intellectual traditions are marked by the diversity of opinions and perspectives. Such diversity exists not only between both traditions but also within each of them. The critiques of science in the West are commenced from the humanist and postmodernist points of view, whereas Muslim intellectuals initiate their critiques from the religious and philosophical teachings of Islam. Both critiques can be considered as an intellectual response to the current concept of modernity, in which science can be considered as a focal point in modernity.

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[i] Interview with Osman Bakar at IAIS, Jalan Elmu, Petaling Jaya, 7 April 2009, 11.00 am.
[ii] Interview with Osman Bakar at IAIS, Jalan Elmu, Petaling Jaya, 7 April 2009, 11.00 am
[iii] Interview with Shaharir Mohamad Zain at Puri Pujangga UKM, 23 January 2009, 10.30 am.

Biodata

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Prof. Dr. Mohd Hazim Shah holds a Bachelor's degree in Liberal Studies in Science from Manchester University, England, a Master's degree in Philosophy from the London School of Economics, and a PhD in the History and Philosophy of Science from the University of Pittsburgh, U.S.A. In 1993 he was a Visiting Research Fellow at the Department of History & Philosophy of Science, University of Melbourne, Australia. From January to June 2008 he was a Visiting Scholar at the Department of History and Philosophy of Science, University of Cambridge. He was formerly the Head of the Department of Science & Technology Studies, University of Malaya from April 2001 to August 2007. He is currently a Professor in the Department of Science and Technology Studies, University of Malaya, where he teaches the history, philosophy, and sociology of science. He has been the President of the Malaysian Social Science Association since April 2010. His research interest includes theoretical studies on science and culture, and comparative epistemology. He has published 2 edited books, several journal articles, and numerous book chapters on subjects ranging from the history and philosophy of science, science and Islam, Islam and the West, science and culture, and science and technology policy.

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