

**THE ISLAMIZATION  
OF KNOWLEDGE**

by

Christopher A. Furlow

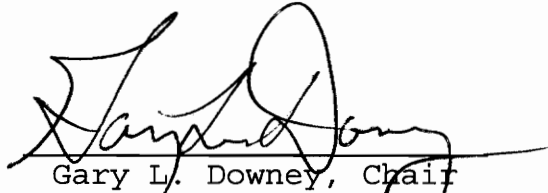
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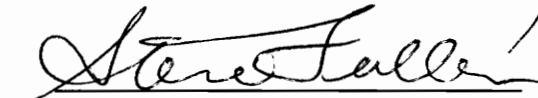
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## (ABSTRACT)

The legitimation of science is an increasingly important issue in science studies. In this thesis, I examine the legitimation issue in a non-Euroamerican setting within the context of the Islamization of knowledge debate.

The Islamization of knowledge debate emerged within the context of the perceived crisis of Islamic civilizational and the concomitant crisis of the intellectuals. Within the Islamization of knowledge, I describe three distinct approaches which I label the traditional, indigenization, and nativization approaches.

The legitimation strategies used by the advocates of the Islamization of knowledge have changed over time. The change is due to the increasing legitimacy and power that the Islamization of knowledge has gained in the last two decades. This increasing legitimacy has led to the exclusion of the most traditional views on science and to disciplinary infighting between advocates of the different Islamization strategies.

Each approach to science uses different legitimation strategies and has different objectives. The advocates of the traditional approach are trying to maintain the status quo. The advocates of the indigenization approach are trying to change power relationships in their favor by constructing themselves as the modern *ulama* who would make policy-decisions based on their possession of knowledge relevant to Islamic civilization. The advocates of the nativization approach are trying to change power relationships in their favor by reconstructing science from its epistemological foundations using Islamic concepts.

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## **Chapter 1 -- Introduction**

The objective of this thesis is to examine and account for the Islamization of knowledge phenomena among Muslim intellectuals. I examine the Islamization of knowledge using the concepts of legitimation, indigenization, and nativization. More specifically, this project examines the diversity of responses to the problem of legitimacy. This is an important problem because it is an example of the legitimation of knowledge in a non-Euroamerican context. Science and Technology Studies (STS) has focussed almost exclusively on science in the Euroamerican context. Thus, STS researchers do not study their specialty in most of the national contexts in which it exists. In this thesis, I attempt to fill a small gap in STS research by examining the interaction of science, technology, and society in one non-Euroamerican context -- the context surrounding the Islamization of knowledge.

### **Background: The Islamization of Knowledge**

Decolonization and development are the broad contexts surrounding both a perceived civilizational crisis and the Islamization of knowledge debate. The Islamization of knowledge is a controversy among Muslim intellectuals over how



to respond to a perceived civilizational crisis. Muslim intellectuals are debating the appropriate roles for Islam and Western science in the solution of this civilizational crisis.

The category 'intellectuals' is configured much differently and more broadly in the Middle East than it is in the United States. In the U.S., an intellectual is associated almost exclusively with academia; in the Middle East, an intellectual may also be a journalist, a religious scholar (*ulama*)<sup>1</sup>, or more generally a 'thinker' who is engaged in public discourse. For example, in Egypt, debates, discussions, and interviews concerned with the causes and possible solutions to the civilizational crisis appear regularly in newspapers, magazines, journals, books, and on radio and television (Boullata 1990).

The debates are characteristic of the identity crisis in the Middle East centering on the role of Islamic traditionalism and Euroamerican secular modernism and the relationship between these world-views. This civilization-wide crisis was triggered by several perceived failures since the Muslim countries gained their independence, however, the crisis is conceptualized by Middle Eastern intellectuals as having an earlier historical origin.

The prelude to direct European colonization of the Middle

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<sup>1</sup>For a glossary of Arabic terms used in this thesis refer to Appendix A.

East (I will use Middle East to denote all the nominally Muslim countries extending from Morocco in the west to India and Indonesia in the east) began in 1798. During this year, Napoleon and the French entered Egypt. In time, most of the Middle East became colonial territories of the British or French.

As part of European colonization came European science, used broadly to include the natural sciences, social sciences, and the humanities, and European technology. The Europeans used their technological military advantage to defeat the less technologically modernized Middle Eastern armies, and the natural sciences were seen by Europeans and Middle Eastern peoples as directly leading to the technology.

The social sciences were also important. The role that the social scientists played during colonization is well documented (Asad 1973, Turner 1971) as being one of helping the imperial powers to subjugate, manipulate, and control the indigenous peoples.

In response to European colonization, many reformers and reform movements emerged within Islam. Each had a different reaction to the loss of power of the Islamic people and Islamic principles to European influence, development, and exploitation. The responses ranged from defending Islam from European influences, to militant strikes against the imperial powers, to the "accommodating and the adaptive, viewing the

West and science as a mixed blessing" (Denny 1985, p. 360). This mix of attitudes regarding the West has continued within Middle Eastern countries even after independence -- full independence having come as recently as 1960 for many of these countries.

While the natural and applied scientists provided the military technology, the social scientists governed and shaped the colonial societies. The French in particular used information from social scientists to subvert the locals and reconstruct their world-view. The French government envisioned their North African colonies as becoming politically and culturally a part of France (see Dhaouadi 1990 and Fanon 1967 and 1963).

After political independence, the former European colonies viewed development as the major obstacle to gaining social and economic independence, and education was the key to development. Orlando Albornoz (1989), in his study of the role education plays in development in several Third World countries, states that "education has been seen as the strategy to bring countries out of underdevelopment, social inequality, and injustice" (p.272). This view that a direct relationship exists between education and development continues to be a dominant theme in much of the world and can be found in the official rhetoric of many Third World governments (Albornoz 1989).

The newly independent Middle Eastern countries also saw European-style education as the best means to attain development (Shami 1989 and Faksh 1977). According to McDonald (1986), who studied Egyptian education and development, "education came to be universally recognized as a major determinant of individual and societal progress toward the goal of modernization and an essential component of development" (p.59).

The Middle Eastern governments privileged the natural sciences in their educational planning. According to the Jordanian anthropologist Seteney Shami (1989), natural science, medicine, and engineering are the favored disciplines, and applied science among the natural sciences is specifically emphasized. The implementation of the natural/applied science would allow these newly independent countries to free themselves from the economic and social ties with Europe and America.

The education policy-makers also incorporated the social sciences into the curricula of the newly founded national universities. However, the social sciences held a secondary position as a place for those who were not "'lucky' enough to be admitted to the more competitive departments of sciences and professional schools" (Shami 1989, p.650). These social sciences would also help to assimilate the great social upheavals within the traditional culture (Shami 1989).

It is ironic that the Middle Eastern countries viewed European-style education as the chosen route to development because a long Arab/Islamic educational tradition already existed. The oldest university in the Middle East, Al-Azhar University in Cairo, was founded in 970 A.D. and still flourishes today as part of Egypt's system of national universities.

Nevertheless, the perception that European-style education was the quickest route to development prevailed. Radwan (1951), an Egyptian scholar, summed up this model early on: "There seems to be .. a naive faith in the power of learning and the influence of schooling regardless of quality and direction. Mere knowing has been considered to have a liberating effect on the human spirit and a revolutionizing effect on human culture" (p.2).

European-style educational institutions operated along side of the previously existing religious educational system. These systems were mutually exclusive and in competition with one another. According to Faksh (1980), a Middle Eastern sociologist who studies education and its role in development, the religious schools provided a basic education and religious training and instruction to the masses while the government schools provided European-style education to the elite.

A product of this dual system of education is a cultural rift between those who are more traditionally oriented and

those who are more Euroamerican oriented (Faksh 1980 and Radwan 1951). This rift has culminated in what some Middle Eastern scholars have described as a civilizational crisis (see Abaza and Stauth 1990, Boullata 1990, Dhaouadi 1990, Dekmejian 1980, and Laroui 1976).

According to these scholars, the civilizational crisis is a crisis of legitimacy and identity. The legitimation crisis is conceptualized as resulting from the failure of Middle Eastern countries to provide effective rulers, achieve development and social justice, and succeed in confrontations with Israel, Zionism, and the West, while the identity crisis is conceptualized as a direct result of both colonization and the trend toward Westernization. Dekmejian (1980) writes that "by the late 1960s due to the confluence of these catalytic factors a multi-dimensional crisis situation was engulfing the Arab and Islamic countries, which continues to dominate their social and political life today" (p.8).

While many different views are represented in these debates, the views in the literature revolve around the poles of 'traditionalism' and 'modernism'. The extreme traditionalist position advocates the return to the original Islamic civilization as it existed in the time of the Prophet Muhammad. The extreme modernist position advocates the total imitation of Euroamerican civilization. These are, at best, only rough caricatures of the positions, but these caricatures

are useful because it is often the caricatures rather than the actual positions that are attacked and debated.

This debate is known by the participants as the 'crisis of the intellectuals' (Kennedy 1991, Laroui 1976). The crisis of the intellectuals is intimately related to the broader civilizational crisis in that it is concerned with how the intellectuals can play a leading role in the solution of the civilizational crisis. What position(s) should an intellectual take politically, theoretically, and methodologically in order to produce knowledge relevant to the solution of the crisis? We will see later that the crisis of the intellectuals can be, itself, best conceptualized as a crisis of legitimacy.

Within the montage of positions held by various intellectuals and intellectual groups regarding the best solution to the civilizational crisis are a number of different positions regarding science. Not all parties agree on the relative merits of science, but all groups pay at least some lip service to it.

An example of the importance placed on science can be found in the characterization by the Middle Eastern sociologist Boullata (1990), who is located in the United States, of the neo-traditionalist Arab intellectuals who "advocate the elimination of all external cultural influences" and "call for a return to the original, pristine essence of

Islam as they perceive it to have been in the early centuries" (p.4). However, "they do not negate science and rationalism but consider them to be modern products of the earlier efforts of Muslims during the heyday of Islamic civilization, and they teach that those products must be re-acquired" (p.4). The deference which these extremely anti-western intellectuals give to science and modern technology shows the extent to which the belief in science and technology has transcended cultural domains.

The Islamization of knowledge debate emerged within the context of the perceived crisis of Islamic civilization and the concomitant crisis of the intellectuals. The Islamization of knowledge movement is one response to this crisis. Within the Islamization of knowledge, three distinct approaches exist.

### **Players, Performances, and Theaters**

An introduction to the many Muslim intellectuals, institutions, and conferences that participate in the Islamization of knowledge controversy is an essential prerequisite to any analysis of the Islamization of knowledge.

Seyyed Hossein Nasr, an Iranian historian and philosopher of Islamic science located in the United States, is one the earliest and still one of the most influential protagonists of the Islamization of knowledge. S. H. Nasr, whose 1968 book



*Science and Civilization in Islam* was named by Ziauddin Sardar (1979) as one of the first factors that sparked the debate on the Islamization of knowledge, is associated with a small group of Muslim scholars. Most notable among them is Osman Bakar, a fellow historian of Islamic science.

Sardar is also a major player in the Islamization of knowledge. Sardar is an independent scholar and journalist who moves back and forth between the United States and Britain. Sardar, who along with Nasr, is the best known advocate of the Islamization of knowledge among Western, non-Muslim scholars. He has authored and edited several books which examine science and technology in the Middle East. He was also a correspondent on the Middle East for the journals *Nature* and the *New Scientist*. Sardar is part of a group who call themselves the Ijmalis.

The Ijmalis are a group of Muslim intellectuals that includes most notably Sardar, Munawar A. Anees and Parvez Manzoor. Gulzar Haider, Merryll Wyn Davies, Mohammad Iqbal Asaria, and Ibrahim Sulieman are less prominent members of the Ijmalis. Anees is a biologist located in the United States while Manzoor is a geologist and linguist located in Europe.

The Association of Muslim Social Scientists (AMSS), which was founded in 1972, is an important professional organization. The AMSS is a professional organization which is interested in helping members "find the relevance of Islam

to their disciplines" (back cover of publication) through its publications, seminars, conferences, and group interaction. The AMSS is located in the United States and is associated with the International Institute of Islamic Thought (IIIT) located in Herndon, VA. The IIIT was founded in 1981.

A small group associated with these institutions advocates another position in the Islamization of knowledge debate. The late Ismail R. al-Faruqi, a social scientist who was located in the United States, is the most prominent among these Muslim scholars. Abdul Hamid Abu Sulayman and Seyyed M. Syeed, both social scientists, continue al-Faruqi's work. Islamic University in Pakistan is using al-Faruqi's plan for the Islamization of knowledge to develop its curriculum.

S. Waqar Husaini is an engineer who has worked in Saudi Arabia and Malaysia. He has developed his own model for the Islamization of knowledge and is working on its implementation in conjunction with Abdull Aziz University in Saudi Arabia.

Mohammad Abdus Salam, Jamal Mimouni, and Ali Kettani are the main protagonists of another position in the Islamization of knowledge debate. Abdus Salam and Mimouni are physicists located in Italy and Algeria. Kettani is the director of the Islamic Foundation for Science, Technology, and Development (IFSTAD). IFSTAD is one of several international organizations designed to promote science and technology in the Middle East.

Other international, Middle Eastern organizations that deal with science and technology include the Islamic Scientific, Educational, and Cultural Organisation (ISESCO), and the Organisation of Islamic Conference (OIC) Committee on Science and Technology.

Bucaille and Moore are two Muslim scholars that believe the Quran reveals the knowledge contained in the modern science theories.

A final group of scholars involved in the Islamization of knowledge debate are the scholars located at the Centre for Studies on Science (CSOS) in Aligarh, India. The Aligarh group is engaged in critically studying the philosophy, sociology, and history of science (Farooqui 1984). The Aligarh group, which includes M. Zaki Kirmani, M. Riaz Kirmani, Rais Ahmad, Mashhood Ahmed, and several others, are best known for their critique's of the various positions in the Islamization of knowledge debate; although, they do produce original works in the philosophy, sociology, and history of Islamic science. The Aligarh group was also instrumental in the founding of the Muslim Association for the Advancement of Science (MAAS), and they publish and regularly contribute to the *MAAS Journal of Islamic Science* in which much of the Islamization of knowledge debate occurs<sup>2</sup>.

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<sup>2</sup>For a summary of the participants involved in the Islamization of knowledge debate refer to Appendix B.

### Three Approaches

Muslim intellectuals, engaged in the Islamization of knowledge debate, use three distinct approaches: some advocate a traditional approach to science, some advocate an indigenization approach to science, and some advocate a nativistic approach to science. The individuals pressing for the Islamization of knowledge have used the second and the third strategies. Some follow the more conservative indigenization model, i.e., it alters the status quo less than a nativization strategy, while others opt for the more radical nativization model.

The specific genesis of the call for the Islamization of knowledge is difficult to locate -- different individuals point to different events. Many of the scholars prefer to use the title 'Islamic Science' to describe their field of inquiry (Rahman 1985) which some believe has now obtained disciplinary status (Sardar 1988). Sardar (1979) points to two factors which helped to create an awareness about the need for Islamic science: Seyyed Hossein Nasr's (1968) book *Science and Civilization in Islam* and the 1976 Islamic Solidarity Conference on Science and Technology. Regardless of the specific historical origins, the Islamization of knowledge has emerged as an increasingly influential movement within the Muslim world as evidenced by the widespread national and international support it has received in the Middle East, e.g.

the sponsoring of major international conferences and organizations that specifically engage the issue of science and technology in the Middle East.

In this thesis, I delineate conceptually and examine three approaches used by participants in the Islamization of knowledge debate. In particular, I examine the participants' legitimation strategies. These strategies have changed over time.

The Islamization of knowledge has a dynamic history. The development of the Islamization of knowledge can be traced over time by examining the ways that the participants represent the different approaches and viewpoints within the literature. As the Islamization of knowledge gained power and legitimacy over time, differences of opinion which were once overlooked begin to be distinguished from one another while the most traditional views regarding Western science are almost totally ignored.

## **Chapter 2 -- Literature Review and Source Materials**

The concepts of indigenization and legitimation are interconnected within the context of the Islamization of knowledge. A four place power relationship exists -- between practitioner, science community, state, and society -- where the different approaches to the general concept of indigenization originate and where the link between indigenization and legitimation is evident.

### **Legitimation**

The legitimacy of science in highly developed countries is taken for granted both by the practitioners and by the general public. So much so that the questions of legitimacy and the process of the legitimation of science are seldom raised. Traditional research in the field of science studies focussed on the internal characteristics of science like the structure and formation of theories, the institutional structure and norms of science while the legitimation question was under-examined. For example, Merton (1973) notes that:

Once science has become firmly institutionalized, its attractions, quite apart from any economic benefits it may bestow, are those of all established and elaborated social activities....Such group-sanctioned conduct tends to continue unchallenged, with little question of its reason for being.

Institutionalized values are conceived as self-evident and require no vindication" (p.231).

Merton fails to ask several important questions: how does science gain its initial legitimacy and how does science maintain this legitimacy?

Today, many science studies researchers view the legitimation of science as an important issue to be studied. The numerous studies of discipline formation and professionalization, which are now so prevalent in science studies, address the issue of legitimation.

Social scientists have utilized the concept of legitimation for a long time. Max Weber conceptualizes legitimacy as the belief in the rightness of rules or the social order. Legitimacy is an empirical tool which is used to explain actions in the social order. "Action, especially social action which involves social relationships, may be oriented by the actors to a belief in the existence of a 'legitimate order'" (Weber 1968, p.11). For Weber, three pure types of legitimate authority exist. These three types of legitimate authority rely on three corresponding claims to legitimacy:

1. Rational grounds -- resting on a belief in the "legality" of patterns of normative rules and the right of those elevated to authority under such rules to issue commands (legal authority).
2. Traditional grounds -- resting on an established belief in the sanctity of immemorial traditions

and the legitimacy of the status of those exercising authority under them (traditional authority); or finally,

3. Charismatic grounds -- resting on devotion to the specific and exceptional sanctity, heroism or exemplary character of an individual person, and of the normative patterns or order revealed or ordained by him (charismatic authority). (*ibid*, p.46).

Weber's categories of legitimation and legitimacy are generalizations which are mediated in specific empirical contexts. Weber claims no universal existence for these concepts. While Weber calls the three types of legitimate authority "pure", he admits that the three are rarely found in their pure form. Rather, the three types are intermingled in most situations. Thus, Weber suggests that legitimacy and legitimation are contextually determined.

One of the aims of this thesis is to demonstrate the contextuality of legitimacy. By this, I mean that legitimacy and legitimation must be examined in the particular socio-political context in which they occur. As Fuhrman and Kaukonen (1988) suggest, science "derives its legitimacy from the social and scientific environments of which it is a part" (p.56).

Cohen (1988), a political anthropologist, suggests a synthetic approach to the empirical study of legitimacy and legitimation. Cohen utilizes all the theoretical conceptualizations of legitimacy in his synthetic approach.



These theoretical approaches -- identified by Cohen as socialization, cultural materialist, rational choice, and Marxist approaches -- need to be synthesized "so that legitimacy is the focus of illumination rather than another application of a particular paradigm, method, or theory" (*ibid*, p.16).

Cohen examines legitimacy as a variable. "In operational terms legitimacy covers a range of reactions to authority" (*ibid*, p.15). However, he delimits the study of legitimacy to politics. His summary statement of the synthetic approach is clear on the limits of the concept legitimacy:

The legitimacy of a state governmental system is a function of its coercive capacities, the benefits derived from compliance, the moral validity of governmental practices, and the continuing evaluation of these practices by the polity members (*ibid*, p.16).

Cohen fails to note that the concept of legitimacy is useful in any context where power relationships and authority exist.

Science is one context in which power relationships and authority exist. Gareau (1991, 1988, 1983), a political scientist who studies the political economy of the social sciences, describes Third World science in a dependency framework in which science is intimately linked with colonialism. Science was imported into the Third World by the colonial powers much as a product would be -- as a complete package with user instructions enclosed.

The boundary between science and the outside break down in the examination of legitimacy. Namer (1984), a sociologist, suggests a triple legitimation process for science in which legitimation must be granted by the scholarly community, the mass media, and an outside social group. Thus, science cannot operate without engaging in the politics of legitimation.

In the Middle Eastern context, the concept of *ijm* is essential to understanding legitimation. *Ijm* relates to the consensus of the Muslim community. *Ijm* refers to the way that the community chose the *Khalifat*, the successor of the Prophet and the leader of the entire Muslim community, during the early years of Islam after the Prophet's death. *Ijm* is the ideal form of legitimacy for which everyone hopes and strives.

This thesis examines legitimacy and legitimation as a dynamic process which is inherently contextual and goes beyond the traditional boundaries of science into the socio-political realm. In the context of the Islamization of knowledge controversy, the concept of *ijm* is important in demarcating legitimacy and is viewed both as a normative ideal and as a strategy used in the participants in the debate.

### **Indigenization and Nativization**

A range of views on indigenization exist in the literature. It is essential to note that the discussion of

indigenization in the literature is almost exclusively focussed on in terms of the indigenization of the social sciences. Perhaps this is the case because of the minimal attention that intellectuals traditionally have given to studying the natural sciences and the connotations which accompany the perceived relationship between indigenization, indigenous knowledge, and indigenous peoples.

Park (1988), a sociologist, conceptualizes indigenization as an emancipatory act which abandons traditional, Eurocentric, universal social science as another form of domination. Park seeks to return "science to the people from whom it once arose" (p.168). Thus, for Park, the scientist's ultimate responsibility is to the society whom s/he studies and any power should reside with that society. Park ignores the larger context of power relationships in which science has a role.

Loubser (1988), also a sociologist, conceptualizes indigenization differently. For Loubser, indigenization occurs at the level of the national social science community and relates to the community's ability to be institutionally independent -- particularly in relation to foreign social science communities. For Loubser, "indigenization" means "the development of national social science communities that are self-reliant, self-sufficient and self-directing ... with respect to all aspects of the vital functions of the

community, including its ability to relate to other communities on an equal, reciprocal basis" (p.179). By this, Loubser means the ability to recruit members, train members, control the content of teaching and training, control the choice of research subject matter, control of theoretical models, control of methods and techniques, control of dissemination and discussion of results, provide an incentive system, receive most its research support from its own national sources, and produce research related to its own national society (pp.180-183). The power shift which occurs in Loubser's conceptualization is primarily from the powerful center to the dependent periphery.

The sociologist Krishna Kumar (1979) has developed a typology which demarcates three types of indigenization: structural, substantive, and theoretic indigenization. "Structural indigenization" refers to the "institutional and organizational capabilities of a nation for the production and diffusion of social science knowledge" (p.104). "Substantive indigenization" focuses on the content or substance of the social sciences. "The essential premise is that the main thrust of these disciplines in a country should be on its own society, people, and economic and political institutions" (p.104). "Theoretic indigenization" indicates local theory production in which "the social scientists of a nation are involved in constructing distinctive conceptual frameworks and

metatheories which reflect their worldviews, social and cultural experience, and perceived goals" (p.105). While Kumar differentiates between these three aspects of indigenization, he fails to include changing power relations in his conceptualization of indigenization. As in Loubser's case, the transfer of power is between national social science communities.

Again in Atal (1981), the UNESCO Regional Advisor for social sciences in Asia and the Pacific, the shift of power must be between national social science communities. Atal, the UNESCO regional advisor in Asia and the Pacific, describes four types of indigenization that were being attempted by scholars in Asia: teaching in national languages and use of local materials, research by native social scientists, local control of research priorities, and the attempt to substitute local theories and methods for foreign ones (p.193). Atal also draws several distinctions in the way certain terms are conceptualized. These distinctions are between "indigenous" and "indigenized", between "endogenous development" and "indigenization", and between "particularistic," i.e. valid in and applicable to only the specific local socio-cultural context, and "universalistic" aspects of indigenization.

All three distinctions are related. For Atal, an indigenous science is built from the ground up using only authentic, local categories, concepts, and methods, coming

from the local world-view. Endogenous development means "development generated from within and orthogenetically, which would, thus, have no place for any exogenous influence" (Atal 1981, p.193). For Atal, an indigenous science has a particularistic, local relevance and makes no claims of universality.

In contrast, an indigenized science does allow outside contact. An indigenized science takes non-local categories, concepts, and methods and makes them relevant to the local situation through the process of indigenization. Indigenization emphasizes "the need for indigenizing the exogenous elements to suit local requirements; whether this is done by the 'indigenous' or by 'outsiders' is a mere detail" (*ibid*). Indigenized science is the result of the indigenization of exogenous science and has a universalistic outlook.

These traditional discussions of the way in which indigenization is conceptualized are not appropriate for the Islamization of knowledge. I find it more useful to conceptualize indigenization as two different concepts which I will call 'nativization' and 'indigenization'. While both models imply a change in power relations, the change is greater in the nativistic model. The difference between these two models is that a nativistic science aims at 'authenticity' at the epistemological and ontological level to the local

context -- nativistic science emerges from and resonates with the local world-view. In contrast, the indigenized science aims for relevance in the local context, but indigenized science does not emerge exclusively from the local world-view. In these concepts, there is not a differentiation between universalistic and particularistic science because advocates of both models in the Islamization of knowledge debate make universalistic claims.

### **Source Materials**

I utilized library materials almost exclusively for this project. I examine the Islamization of knowledge debate through the published materials, books, journal articles, and published conference papers, of the self-declared participants in the debate. These materials include both primary and secondary sources. The primary material on the Islamization of knowledge consists of the published articles and books of those individuals directly engaged in the debate over the Islamization of knowledge. Secondary sources which address the Islamization of knowledge include Sardar's articles (1988 and 1979) and Kirmani's paper (1987).

I utilized similar primary materials in the discussion of the civilizational crisis and the crisis of the intellectuals. I supplement these primary materials with secondary materials by European and American scholars which discuss the

educational systems in the Middle East.



### **Chapter 3 -- The Traditional Approach**

The advocates of the traditional model of science want to maintain the status quo. The advocates of the traditional model hold that science is value-free, neutral, and objective -- any values which surround science, primarily personal values, do not effect the content of science. Therefore, science cannot be responsible for the crisis of civilization. Most Muslim scientists hold this view (Sardar 1988, 1985). Two physicists, Abdus Salam and Jamal Mimouni, represent the traditional approach to science most forcefully in the literature.

Abdus Salam (1989, 1986) argues that modern science is part of the Islamic legacy. Abdus Salam uses two strategies to demonstrate this fact. First, he constructs the history of science in a way that stresses the continuity and interconnectedness between Islamic science and modern, European science. Second, he cites Western authorities to support his claim.

Abdus Salam (1989) argues that the transition from the medievalists to the modernists occurred during the "Golden Age of Science in Islam" around 1000 AD. According to Abdus Salam, Ibn al-Haitham and Al-Biruni were the first modernists, i.e., empirical scientists. Ibn al-Haitham, "one of the

greatest physicist (sic) of all time" (1989, p.136), made numerous observations -- observations which became a part of modern physics. According to Abdus Salam, Ibn al-Haitham anticipated Fermat's Principle of Least Time, the law of inertia "part of Galileo's and Newton's laws of motion" (1989, p.136), and the Aswan Dam. Al-Biruni, who Abdus Salam says was "as unmediaeval in outlook as Galileo, six centuries later" (*ibid*), also pioneered modern, empirical science and condemned superstition.

Next, Abdus Salam cites Western authorities on the history of science. He cites Brifault: "What we call science arose as a result of new methods of experiment, observation, and measurement, which were introduced into Europe by the Arabs...(Modern) science is the most momentous contribution of the Islamic civilisation..." (Abdus Salam 1989, p.137, ellipses and parenthetical comment his). Then, Abdus Salam cites Sarton, who he calls "the great historian of Science": "The main, as well as the least obvious, achievement of the middle Ages was the creation of the experimental spirit and this was primarily due to the Muslims down to the 12th century" (*ibid*).

Mimouni (1987) follows "the pragmatic" Abdus Salam's construction of modern science as a Graeco-Islamic legacy. Mimouni believes that the "natural sciences are as Islamic as Nature could be" (p.87). Mimouni also states that "science

doesnot (sic) progress according to the ideologies of its practitioners" (*ibid*), by which he means that science is value-free. Therefore, the natural sciences are not the concern of the Islamization of knowledge movement.

Abdus Salam and Mimouni illustrate two important boundary demarcations made by the advocates of the traditional approach to science: they demarcate the natural sciences from the social sciences and science from some forms of religion. Mimouni (1987), while demonstratively opposed to the Islamization of the natural sciences, states that the social sciences are an appropriate target of the Islamization movement explicitly pointing to al-Faruqi's work. "Social sciences are much more subjective and their ideological implications lie much deeper, and so they are legitimately the prime object for the Islamization project" (p.88).

Abdus Salam and Mimouni also emphasize the need for science to be free from outside influences, particularly religious influences. Abdus Salam goes so far as to blame the decline of science in Islamic civilization on the influence of religion. According to Abdus Salam, the decline of science in Islamic civilization was "in the main" due to the "active discouragement to innovation by the fanatical attitudes of the religious establishment" (Abdus Salam 1989, p.137). Mimouni, meanwhile, decries the less conventional Islamic approaches of "the mysticals of S. H. Nasr" and "the narrowly scientific

exegesis of the Quran of the likes of M. Bucaille" (1987, p.85).

Abdus Salam also argues that science actually increases one's spirituality. "There is a sublime beauty about the laws of nature and ... the deepest (religious) feelings of man spring from the sense of wonder evoked by this beauty" (1989, p.139).

The advocates of the traditional model of science have a two tiered legitimation strategy -- they attempt to construct modern science as Islamically authentic and as relevant to the problems of contemporary Islamic civilization. These two tiers are composed of a total of four steps. First, the advocates of the traditional model use the Quran and the Prophet to justify the modern practice of science. Second, the advocates construct modern science as an Islamic or at worst as a partly Islamic legacy, rather than as a European legacy. Third, they emphasize the relevance of modern science to the solution of contemporary problems. And finally, they attack the infrastructure surrounding science in the Middle East for not allowing the sciences to follow their natural course, represented similarly to Merton's (1973) norms of science, as they are in the West.

Perhaps the best evidence for this is the International Conference on Science in Islamic Polity which took place in 1983. The title of the conference, International Conference

on Science in Islamic Polity, already gives away the slant of the conference organizers toward a traditional approach to science which just happens to occur in an Islamic country. Many Muslim and non-Muslim scientists and scholars attended this conference which was sponsored by the Pakistani Ministry of Science & Technology, the National Hijra Centenary Committee, and the Organization of Islamic Conference (OIC).

The goal of this conference was to create a plan of how to promote and develop science and technology which would help the Muslim *Ummah*. As the organizers stated, the goal was "to frame workable recommendations and draw up, at least, an outline Action Plan for the future growth of Science and Technology in the Muslim Ummah and its application for the future homogenous and integrated development of the peoples of the Muslim World" (Qurashi and Shah 1983a, p.iii). However, the legitimization of the traditional model of science and technology within the Muslim world was the conference's primary agenda. Some of the advocates of the Islamization of knowledge express disgruntled attitudes toward this conference which supports my claim about the conference's agenda (see Anees 1987 and Sardar 1985b, 1984).

The conference organizers published the papers presented at the conference under the titles *Islamic Scientific Thought and Muslim Achievements in Science* and *S & T Potential and its Development in the Muslim World*, each title having two

volumes. The first two-volume title dealt with the past and tried to establish the authenticity of science and technology while the second two-volume title dealt with the present and the future and tried to establish science and technology's relevance.

Authenticity is built around the first two steps of the four part legitimation strategy. Quranic legitimacy must be established first. In almost every paper, the authors use quotations from the Quran and the Prophet to legitimate science and the pursuit of knowledge.

Mehdi Golshani an Iranian physicist, in his paper entitled "The Significance of Physical Sciences in Islamic Outlook and the Need for a Scientific Renaissance in Islamic Polity," quotes the Quran and the Prophet continuously. Throughout his paper, Golshani does not write more than a few sentences without quoting the Quran or the Prophet at least once to back each of his points. To back his point that knowledge is essential to the worship of Allah, Golshani cites the Quran: "Of all His servants, only those endowed with knowledge stand in awe of God" (1983, p.62). To legitimate the seekers of knowledge, Golshani cites the Prophet five times: 1) "To seek knowledge is compulsory on every Muslim", 2) "Seek knowledge even if it be in China", 3) "Seek knowledge from cradle to grave", 4) "Scholars are the heirs of the prophets", and 5) "The ink of the learned will be weighed

against the blood of the martyrs on the Resurrection Day" (*ibid*, p.63).

Several authors explicitly attempt to use the Quran as a guide and inspiration for the development of science and technology and to demonstrate the Quran's influence on the history of science in Islamic civilization. Daiber (1983), a Dutch scholar, attempts to connect the Quran with the success of science in Islamic history in his paper "The Qur'an as Stimulus of Science in Early Islam". Inayatulla (1983), a Pakistani education commissioner, quotes the Quran in order to demonstrate that "the Quran leaves no doubt in the mind that it is incumbent on Muslims to cultivate the scientific spirit" (p.134) in his paper "The Quran as Guide for Development of Science and Technology".<sup>3</sup>

The advocates of the traditional approach also have used the Quran and the Prophet to legitimize their position in contexts outside this conference. Abdus Salam (1989) is a prime example. He states:

Seven hundred and fifty verses of the Quran (almost one eighth of the Book)-exhort believers "to study Nature, to reflect, to make the best use of reason

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<sup>3</sup> Other examples of this include: Farooqi's paper "Inspiration from Quran for Scientific Endeavor"; Bhutta's paper "The Quran as a Guide for Development of Science & Technology"; Nowshervi's paper "The Quran as a Guide for Development of Science and Technology"; Akbar's paper "The Quran a Guide for Development of Science and Technology"; and Zahir's paper "The Holy Quran as a Guide for Development of S&T, with Special Reference to Medicine and the Sciences".

in their search for the ultimate and to make the acquisition of knowledge and scientific comprehension part of the community's life." The Holy Prophet of Islam (peace be on Him) emphasised that the "quest for knowledge (and sciences) is obligatory upon every Muslim, Man and Woman." (p.135)

The second step in building authenticity for the traditionalists is the construction of modern science as a part of the Islamic legacy. One of the preferred strategies to demonstrate this view is to use foreign, and especially, European and American scholars alongside of Muslim scholars. For example, at the conference, scholars from Spain, Italy, Germany, The Netherlands, Hungary, Poland, Great Britain, China, the United States, and the Soviet Union gave papers which discussed Muslim contributions to science -- nearly one in five papers in the first two-volume title.<sup>4</sup> Abdus Salam

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<sup>4</sup> Papers in this category include: Valverde's "Contribution of Spain to the Diffusion of Arabic Science in Europe"; Bausani's "Islamic Science and the West"; Kaunzer's "On the Islamic Influence upon Occidental Mathematics"; Daiber's "The Qur'an as Stimulus of Science in Early Islam"; Szabo's "Ibn Al-Haitham's Theory of Light and the Western Science"; Piaskowski's "Northern Turkey -- The Place of the Origin of Iron Smelting in the World"; Burnett's "Alkindus Latinus: A Descriptive Catalogue and Study of the Latin Works attributed to Al-Kindi in Western Manuscripts"; Wette's "Theometric Consequences of 'Soul' -- Computation: Solution to the Universal Problem of 'Motion' and Religion"; Wei's "Our Relationship Goes Back to Ancient Times -- The Scientific and Technological Cooperation and Exchange Between China and Islamic Countries"; Lipson's "The Implications of the Theory of Evolution on the Relationship Between Science & Religion"; Kuzminski's "Members of Islamic Faith in Bialystok Health Services: Their Professional Work and Social Activities"; Forbes' "A 16-th Century Indian Miniature Illustrating Two Arab Navigational Instruments"; C. Hillenbrand's "Medieval Arab Geographers on Central Asia: The Case of Marw"; Jaki's "The Physics of Impetus and Impetus of the



(1989), as was cited earlier provides another example of this technique.

The third and fourth steps attempt to demonstrate the relevance of modern science and technology to solving the problems in Islamic civilization. The advocates of the traditional approach emphasize its success by pointing to Euroamerican success and to the development of non-Western countries like Japan.

The decline of science in the Islamic world is then blamed for the lack of success in the Islamic civilization. The cause of the decline is partly due to external influences, partly due to the fault of Islamic scientists, but mainly due to the *ulama*, or traditional religious scholars, and other advocates of Islam. In order to reinvigorate science, scientific freedom and the existence of a critical mass of practitioners is essential. If Middle Eastern nations "decide to support Science and create considerable self-contained and internally-free bodies of scientists, Science will do well. Democracy in the society as a whole is not essential for its flourishing: democracy and openness (plus generous patronage) within the scientific community is essential" (ibid, p.134). It is the responsibility of the government to allow the

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Koran"; R. Hillenbrand's "Turco-Iranian Elements in the Medieval Architecture of Pakistan: The Case of the Tomb of Rukn-i-Alam, Multan"; and Polanskaya's "Syed Ahmed Khan and the Dissemination of Scientific Knowledge in South Asia (The Late 19th Century)".

scientists the freedom and independence necessary for the success of the scientific enterprise.

## **Chapter 4 -- The Indigenization Approach**

The indigenization approach is another strategy used by Muslim intellectuals engaged in the Islamization of knowledge debate. The advocates of this model are aiming for relevance to the local context, i.e., they want knowledge that can solve their society's own problems. While they argue that the Euroamerican model of science cannot work when adopted uncritically, they are not willing to discard the whole enterprise.

The advocates of the indigenization approach hold that the crisis of the Islamic civilization resulted from the division of knowledge into what might be called "rational" or "modern" sciences and Islamic sciences. This division of knowledge is now institutionalized in Middle Eastern educational systems. The advocates of this approach argue that educational reform is needed in order to re-unify knowledge. The reformed educational system will produce individuals who have a unified knowledge of both rational and Islamic science which is relevant to the Islamic civilization.

Two prominent models of indigenization exist in the Islamization of knowledge debate: the model of the late Ismail R. al-Faruqi which is now followed by the IIIT and the imitation-innovation assimilation model proposed by S. Waqar

A. Husaini. The primary difference between these two models is who gains the more powerful position -- social scientists or natural scientists and engineers.

The first group proposes the Islamization of knowledge through the indigenization of the social sciences and the infusion of Islamic values into natural science educational curricula. Al-Faruqi (1982) has proposed a twelve-step work plan, which was revised and expanded after his death in a second edition by Abu Sulayman (1989), by which to accomplish the Islamization of knowledge and thereby end the "malaise of the Ummah" (Abu Sulayman 1989).

For this group, 'Islamization' is conceptualized as a rallying cry and as an alternative to the alien concepts of 'westernization' and 'modernization'.

It is high time that we march ahead and unfurl the banner of "Islamization". This goal is ingrained in the very conscience of the Ummah and emanates from the very depths of its being .... In the end, slogans such as "westernization" and "modernization" are redundant and superfluous and will become obsolete. The Ummah is Islamic in creed, psychology, ideals, and history and the goal of "Islamization" embraces both the "contemporary" and the "modern". The only difference is that "Islamization" also acts as a guiding principle that directs human effort and leaves little room for misguidance and deception. (Abu Sulayman 1989, p.83)

For this group, the political, economic, and cultural spheres reflect the civilizational malaise, and European colonization, in various forms, is directly responsible. In the political sphere, the effect of the malaise is the

fragmentation of the *Ummah* into dozens of nation-states and the creation of a foreign state, Israel, within Islamic territory. The economic sphere is "nondeveloped and backward" (Abu Sulayman 1989, p.2). And all the resources which the Middle Eastern countries possess are not benefitting the Middle East, but rather, they end up benefitting foreign countries. The cultural effects of the malaise have also been great causing "illiteracy, ignorance, and superstition to spread among Muslims" (Abu Sulayman 1989, p.3). The results of Westernization have resulted in the loss of Muslim self-identity. The Muslim has "made of himself something neither Islamic nor Western -- a cultural freak of modern times" (Abu Sulayman 1989, p.5).

For al-Faruqi's group, the core of the crisis is a crisis of intellectual thought and methodology which stems from the education system and its lack of an Islamic vision. Al-Faruqi argued that the division of the curriculum into Islamic and 'modern' components was the direct cause. "Nowhere in the Muslim world is the Islamic vision taught to all the students ... with consistency, universality, utmost seriousness and commitment on the part of all. In no Muslim university is such a vision part of the 'basic' or 'core' studies program that is compulsory to all students" (Abu Sulayman 1989, p.9). The solution is to reform education by integrating the Islamic and the European-style educational systems.

The integration of the curriculum will occur through the Islamization of the social sciences. The Islamization of the social sciences will unite objectivity and values which are separated in the Euroamerican classification of knowledge into the social sciences and the humanities but which can not be separated in an Islamic classification (al-Faruqi 1981). This synthesis will occur at the disciplinary level through a twelve-step work plan (al-Faruqi 1982) which is summarized in Figure 1. The work plan has five objectives:

- 1) To master the modern disciplines of the social sciences.
- 2) To master the Islamic legacy.
- 3) To establish the specific relevance of Islam to each area of modern knowledge.
- 4) To seek ways for creative synthesis between the legacy and modern knowledge.
- 5) To launch Islamic thought on the trajectory which leads it to fulfillment of the divine pattern of Allah. (al-Faruqi 1982, p.38)

The work plan emphasizes establishing, through the development of an Islamic methodology, the relevance of Islam to the modern social science disciplines and the relevance of the resulting indigenized knowledge to solving the practical problems of both the *Ummah* and humankind. In steps five through ten of the work plan and objectives three through five, al-Faruqi clearly indicates that the goal of his Islamization work plan is the solution of the *Ummah's* problems

**Step 1:** Mastering Modern  
Disciplines

**Step 3:** Mastering Islamic  
Legacy

**Step 2:** Disciplinary  
Survey

**Step 4:** Analysis of Islamic  
Legacy

**Step 5:** Establishing Relevance of Islam to Modern Disciplines

**Step 6:**  
Assessment  
of Modern  
Disciplines

**Step 7:**  
Assessment  
of Islamic  
Disciplines

**Step 8:**  
Survey of  
*Ummah's*  
Problems

**Step 9:**  
Survey of  
Humanity's  
Problems

**Step 10:** Analysis and Synthesis

**Step 11:** Recasting the  
Disciplines:  
Textbooks

**Step 12:** Dissemination of  
Islamized Knowledge

Figure 1. The Work Plan of al-Faruqi (adapted from Sardar 1985a, p.99).

and the problems of humanity. The IIIT is using this work plan in order to actualize the goals of the Islamization of knowledge.

The IIIT has recently revised and expanded al-Faruqi's work plan in a second edition edited by Abu Sulayman (1989) which reinforces al-Faruqi and the institute's emphasis on relevance and methodology. Relevance is derived through the adoption of an Islamic methodology.

Islamic methodology is founded on a few basic Islamic tenets. "These principles constitute the framework of Islamic thought and methodology; they are the lighthouse that guides Islamic mentality, psychological build-up and personality in academic and everyday life" (Abu Sulayman 1989, p.33). Foremost among these is the principle of *tawheed* or the unity of *Allah*. Essentially, this means that there is no god but *Allah*, and everything derives from *Allah*.

*Allah* (SWT) is the One and Only, begets not, nor is He begotten, and nothing is like unto Him. He has created the earth and the universe and willed that man would be entrusted vicegerency (sic) on the earth that he might construct and diffuse good on it and face reckoning in the hereafter. These are the eternal facts brought forth to man by revelation. All other principles and concepts [that deny this] ... are excluded. (*ibid*, p.34, brackets mine)

Following this first principle and following from it are the principles of the unity of creation, the unity of truth and unity of knowledge, the unity of life, the unity of humanity, and the complementary nature of revelation and reason (Abu



Sulayman 1989). At this point, individual scholars are responsible for the development and use of an Islamic methodology appropriate for their discipline.

The IIIT plan is attempting to maintain much of the present structure of education. The educational system is flawed but not irreparably so. The disciplinary structure is retained -- Islamic principles are made relevant to the Western disciplines (Step 5 of the al-Faruqi work plan), not the other way around. In a way, the Islamic principles, while they are an essential aspect of the new 'Islamized' disciplines, are in a secondary position to the Western-defined knowledge demarcations represented by the disciplines.

The most important change in the al-Faruqi/IIIT plan is the important role that social scientists will fill in Islamic society. The Islamic social scientists become modern *ulama*. This is important because the individuals involved in formulating the plan are social scientists.

According to Shami (1989), a Jordanian anthropologist who is not involved in the Islamization debate, the legitimacy of the social sciences and social scientists stems from their role as educators, as conveyors of knowledge. Middle Eastern social scientists are for the most part educators rather than policy-makers or producers of relevant knowledge (Kennedy 1990, Shami 1989). Thus, the perceived failure of the education for development model is extremely detrimental to

their legitimacy.

The social scientists are reconsidering their legitimation strategies in light of the perceived crisis. The social scientists are providing an alternative interpretation of the situation. An interpretation in which they are only partly responsible for the civilizational crisis, and an interpretation in which they have a solution to offer in which social scientists are critical to the plan's success. Middle Eastern social scientists are seeking a new kind of legitimation -- legitimation as producers of relevant knowledge as well as educators.

For their vision to be adopted, the advocates at IIIT and elsewhere need allies and institutional status. The IIIT plan attempts to bring in a large number of allies and has been very successful at institutionalization. The IIIT plan does not alienate anyone except those who refuse any change in the system. Social scientists and humanities scholars, both those trained and residing in the West and those trained in the Middle East, have important roles in the plan. Natural scientists are untouched except that a few new courses will be required for their students. Thus, the natural scientists legitimacy is not brought into question. The *ulama* are an essential part of the plan. The ruling elite are not threatened because this is a long term plan which will take decades to complete, and the ruling elite actually have a

reason to support the plan because it appears that they are attacking the civilizational crisis head-on.

Members of the Association of Muslim Social Scientists (AMSS) formulated the initial ideas which were eventually transformed into the work plan. The IIIT was then founded in 1981 as a second institutional base for the Islamization of knowledge. This professional organization and its members were the instigators and original supporters of the IIIT. The AMSS and IIIT have worked with each other on their work plan which they have been relatively successful in actualizing. For example, the Islamic University in Pakistan is using the plan to structure its curriculum.

The IIIT legitimation strategy relies heavily on maintaining the legitimacy of the education for development paradigm by constructing the present European-style educational system as fundamentally flawed and at the root of the civilizational crisis. However, the educational system is not beyond repair. It can be fixed through the implementation of a plan which will instill a sense of the Islamic heritage and values in students which will in turn produce individuals who are capable of solving the relevant, practical problems of the Islamic civilization. The reform will occur at the level of the social science discipline.

While the al-Faruqi/IIIT emphasis is derived from Islamic principles used to create an Islamic methodology, S. Waqar A.

Husaini, an engineer, attacks the problem of relevance and educational reform in a different way.

For Husaini, the problem of instilling science and technology with Islamic norms and values is solved through his imitative-innovative assimilation model and educational reform. In this model, *Shariah* provides the normative criteria from which decisions on what Western science and technology can be assimilated successfully by Islamic civilization without compromising the *Ummah's* integrity (Husaini 1980).

W. A. Husaini has defined two types of disciplines: *ulum aqaliyya* and *ulum Shariyya*. *Ulum aqaliyya* refers to those disciplines, or parts thereof, which are "derived from pure reason, experience, and experimentation" (Husaini 1981, p.149). These disciplines "are not directly in the scope of the Quranic revelation and Islamic ethics" (ibid), and they, therefore, have a greater amount of flexibility. *Ulum Shariyya* are disciplines which are "based on or derived from Islamic ideology, ethics, and value-judgements" (ibid).

In the classical and early medieval Muslim educational systems, these two aspects of knowledge, the rational and the Islamic sciences, were combined in an integrated system of education. According to Husaini, the end of this system resulted in the civilizational crisis which still exists today. "The break-up of the integrated educational system is

the primary cause of the decline of both Muslim science and Islamic ideology. A schism was created" which contributed to "the decline of Islam both as a cultural force and as a civilization" (1981, pp.150-151).

Husaini, like the advocates of the IIIT plan, believe that educational reform can overcome this problem. The difference between the plans is who will have the responsibility to rejuvenate Islamic civilization once the educational system is re-integrated. In the IIIT plan, it is the social scientists. In Husaini's plan, it is the scientists and engineers because he believes that "they are the main agents of change in socio-economic development and industrialization" (1981, p.153).

Husaini's plan for the re-integration of education consists of three steps: the integration of the humanities and social sciences with Islamic ideology, the integration of the newly formed Islamic humanistic-social sciences with science and technology, and the integration of techno-humanistic and techno-social science disciplines with Islamic ideology. "The first and most important task is to begin the integration of Islamic ideology with the humanities and social sciences" (1981, p.163). Husaini holds that the scholars in these disciplines will perform this task of integration, and he argues that "this cannot and should not be done by Muslim activists, public leaders and preachers" (*ibid*). Thus,

Husaini tries to maintain the autonomy of the scholars while at the same time appeasing the religious reformers. The second task is the integration of the new Islamic "humanistic-social sciences" with science and technology which will be performed by "the faculties and departments of science-technology specializations" who will "develop a body of knowledge specializing in Islamic history, philosophy, and sociology of these science-technology specializations as well as of science and technology in general" (*ibid*). Again, Husaini maintains the independence of the scholars. The third task is the ingration of the techno-humanistic and techno-social science disciplines with Islamic ideology. Husaini describes techno-humanistic and techno-social science disciplines as 'applied' disciplines derived from the humanities and social sciences (1981, p.155). This re-integrated educational system will allow for the formation of several new subject areas. These include: *Shariyya* Philosophy of Science and Technology (S&T), *Shariyya* Sociology of S&T, *Shariyya* History of S&T, *Shariyya* Medical and Life S&T, *Shariyya* Environmental S&T, *Shariyya* Business, Industry, Electronic Media, and Micro-Electronics, and *Shariyya* Public Policy Affairs in S&T (Husaini 1985).

The reformed educational system will produce individuals who are knowledgeable in *shariah* and science and technology. Thus, Husaini re-unites the *ulum aqaliyya* and the *ulum*

*Shariyya* which in turn allows the creation of appropriate science and technology through a process involving Husaini's imitative-innovative assimilation model.

Waqar A. Husaini, like the advocates of the al-Faruqi/IIIT plan, also wants to maintain the legitimacy of the education for development model in which scientists and engineers are the decision-makers in terms of what science and technologies are appropriate and can be assimilated, what must be rejected, and what must be modified before being assimilated. These Islamically trained scientists and engineers would interpret the *shariah* in the way traditionally done by the *ulama* and make decisions on technology which are now made by government. Thus, the plan steps on many toes and sources of authority.

To compensate, Husaini extends a large role to the *ulama* who must help to re-integrate the educational system. In the early days of nationalism, the *ulama* and their Islamic schools were placed under government control. A prime example is Al-Azhar University which had operated independently for centuries and which was nationalized by the Egyptian government. The Islamization of government schools would therefore be an exciting proposal for most of the *ulama*.

The government is also reassured that the best approach to reform is a slow approach, and Husaini justifies it with Islamic concepts. "While it is proper to aim at a 'big push'

to achieve this goal, the Islamic strategies of gradualism (*tadrij*) and easy, small compromising steps (*taysir*) might be preferable in most circumstances" (1981, p.164).

Husaini also gives those in the social sciences and the humanities reason to support the plan. These scholars, whose disciplines are often considered second class (Shami 1989), are given a prominent place in the reform of education and therefore the rejuvenation of civilization. They also are included in the science and engineering curriculum which does not occur in many places. In this plan, the social sciences and humanities are used in their traditional role as providers of education -- a role that is currently under attack. So, the social sciences and the humanities are therefore legitimated and assigned a specific role by this plan.

Husaini also attempts to coopt the Muslim scholars who have been educated in the Western educational tradition. He sees the regaining of these scholars as potentially very advantageous to the success of his plan. "The regaining and re-direction of these lost souls among Muslim immigrants in the West could provide a tremendous boost to the cause of the Islamic humanistic-social sciences" (1981, p.165).

And in a final attempt to convince people to act, Husaini calls the implementation of educational reform "*fard kifaya*" or a social obligation (1981, p.164).

The indigenization model of science, represented by the



IIIT group and the Waqar A. Husaini group, has the goal of making Islam relevant to science and science relevant to Islamic civilization. In the indigenization model, the goal is not to change institutional structures, though they are altered, but, rather, the goal is to change the power relationships. This change in power relationships is related to a change in the legitimation of the institutional structures. In the indigenization models, the key to legitimation is relevance -- relevance to the crisis of the intellectuals and the civilizational crisis. For the advocates of the indigenization model, relevance implies authenticity.

## **Chapter 5 -- Nativization Approach**

The nativization approach is another strategy used by Muslim intellectuals engaged in the Islamization of knowledge debate. The advocates of a nativization approach hold that the traditional model of science is a product of Western civilization and is embedded in the Western world-view. According to the advocates of nativization, the traditional model of science cannot solve the problems of Islamic civilization because it has a different world-view. An authentic Islamic science is needed to solve the problems of Islamic civilization. Islamic science is not an adaptation of the traditional model of science. Rather, Islamic science is a new and different science which must be built upon an Islamic epistemological foundation.

Two main models of a nativization approach exist -- the Ijmali model and the S. H. Nasr model. The advocates of these models believe that the success of an Islamic science requires the total reconstruction of science from its epistemological foundations. Their visions of Islam are competing for the right to represent authentic Islam. The representation of authenticity is central to the concept of nativization. The Ijmali vision is a more traditional Islamic vision while Nasr's vision incorporates some aspects of Sufi mysticism.

The Ijmalis, lead by Ziauddin Sardar, S. Parvez Manzoor, and Munawar A. Anees, advocate one nativistic position. They provide a strong critique of Western science at the epistemological level and attempt to demarcate appropriate Islamic concepts upon which to reconstruct science. The Ijmalis aim at synthesis within the framework of Islamic aesthetics. Sardar (1984a) describes Islamic science this way:

It is essentially a *subjectively objective* enterprise: objective solutions to normative goals and problems are sought within an area mapped out by the eternal values and concepts of Islam. In Islamic science, both the ends and means of science are dictated by the ethical system of Islam .... It is a systematic, rigorous pursuit of truth, a rational and objective problem solving enterprise that seeks to understand the whole of Reality. It is wholistic and is founded on synthesis. (p.72)

Sardar (1984a) has argued for the establishment of Islamic science based on four observations:

- 1) Different civilizations have produced distinctively different sciences.
- 2) Islamic science in history had a distinctive identity expressed in its unique nature and characteristic style.
- 3) Western science is inherently destructive and is a threat to the well-being of mankind.
- 4) Western science cannot meet the physical, cultural and spiritual needs and requirements of muslim societies.

The first observation is derived from Sardar's view that science, and all components of civilization, are socially constructed. The center of any civilization is its world-view. The components of civilization -- culture, values and

norms, social and political organisation, and science and technology -- are all derived from this world-view (Sardar 1984a).

The second observation is that Islamic science, during its Golden Age, was derived from the world-view of Islam. Therefore, the Islamic science was at once authentic and relevant. It was distinct from other sciences, e.g. Greek science or Chinese science, and helped Islamic civilization to reach its highpoint. The Islamic science's authenticity came from its Islamic epistemological foundation which emphasized the diversity of knowledge and its inter-relatedness.

The concepts of Islamic epistemology are located in the Quran and the *Sunna*. "*Tawheed*," the "unity of God", is the unifying principle of Islamic epistemology. Four other concepts and three pairs of opposed concepts form the remainder of the primary concepts of Islamic epistemology. "*Khilafat*" is the "trusteeship" of the world given to man by Allah. "*Ilm*" is the Islamic concept of "knowledge" which includes both concepts and values and is discoverable through reason and revelation. "*Ibadah*" is "worship"; the acquisition of *ilm* is a form of *ibadah*. "*Taqwa*" is "God-consciousness". "*Adl*", "equity" or "justice", is opposed to "*Zulm*", "oppression". And, "*Halal*" is "permissible" while "*Haram*" is "forbidden". "*Istislah*", "public interest", is opposed to "*Dhiya*", "waste". These Islamic concepts provide the holistic

and inter-related foundation on which the Ijmalis want to construct a rejuvenated Islamic science. "These concepts provide an Islamic set of values, a social system for seeking knowledge and an alternative institutional structure for operationalizing contemporary Islamic Science" (Kirmani 1987, p.60).

A return to the Golden Age of Islamic science and civilization is not sought. Rather, the Ijmalis seek to apply the same Islamic concepts to the contemporary situation to achieve an authentic Islamic science which is relevant to and can address the issues of the modern Islamic civilization from within its own world-view. The Ijmalis are not only interested in reconstructing science -- they are working toward the total reconstruction of society, which is in a crisis, to conform with the Islamic epistemological world-view.

The reconstruction of science and technology is essential for the plan to succeed. The Ijmalis believe that science and technology are what shape contemporary society, and they also believe that science and technology are shaped by the Western world-view. "It is science and technology that maintains the social, economic and political structures that dominate the globe. Contemporary society is being shaped by science; and scientific and technological knowledge are the prime tools of Western epistemological imperialism" (Sardar 1985a, p.100).

Sardar's third and fourth observations concern the inadequacies of Western science for Islamic society and all human-kind. For example, the emphasis of Western science is on military and environmentally damaging applications. Islamic science is, therefore, needed because "the needs, the priorities and emphasis of Muslim societies are different from those that science has incorporated in the western civilisation .... Without Islamic science, Muslim societies will only be an appendage to western culture and civilisation" (Sardar 1984a, pp.72-73).

Sardar, in his numerous writings, has attempted to demarcate the viewpoints on Islamic science twice -- the first time in 1979 and the second time nine years later in 1988. Sardar's analyses of Islamic science are important because they provide evidence of the shift in legitimization strategies used by the Ijmalis.

In 1979, Sardar reported the various view points of Muslim scientists and engineers regarding science and technology based on interviews. He stated that the discussions were centered around two questions and four points of view on how to approach the questions. The questions were very general: "What is Islamic science? And how does it differ from the practice of conventional science?" (Sardar 1979, p.355). The four view points covered a wide range of attitudes from the traditional Western approach to the belief

that science needs to be totally reconstructed based on Islamic principles.

According to Sardar (1979), the traditional view was that science is universal and value-free and that any values would compromise the scientific enterprise. Sardar interviewed three individuals who held this perspective: Ali El Hili, Tevfik Karabag, and Fahamy Ramadan.

The second view might be classified as a slightly modified traditional outlook. According to this view, science is neutral, but one's approach to science contains values. For example, a scientist may take a secular or an Islamic approach to science. In this view, values reside primarily at the level of the individual scientist. Affifin Suhaimi and Zafar L. Sawaf held this view.

According to the third view, science is not neutral. Rather, science reflects Western values. While the individuals who hold this view are unsure whether the content of Islamic science would differ from current science, they believe that its priorities and emphasis would change. Islamic science would be a goal-oriented science which would shift its focus away from military goals toward more socially benevolent goals. Ali Kattani and Raghieb El Naggar hold this view.

The fourth view, attributed to Abdullah Nasseef, Mahdi Mumkin, and Waqar A. Husaini, proposes a total reconstruction

of science based upon Islamic principles. The dominant model of science is entirely Western in outlook. "Science ... is a product of western civilization and an embodiment of its culture, ethos, and values" (Sardar 1979, p.357). An Islamic science built anew using Islamic principles and concepts is needed if science is to prove useful to Muslim societies. "The basic axioms of Islamic science are different from those of western science, and its method of knowing is also different, it is a science with its own identity and character" (ibid).

Sardar's analysis changed significantly over time. Sardar's (1988) second analysis of Islamic science demarcates four schools of thought within the "nascent discipline of Islamic science" (p.35). The four schools are the Guenon/Schuon school, the Ijmali school, the Aligarh school, and the traditional science school which is "essentially propagating the dominant, positivist, and realist view of science" (p.38).

The Guenon/Schuon school includes S. H. Nasr, Osman Bakar, and several little known individuals who Sardar believes hold a position which is not an Islamic one. "It is infact a fusion of the Ismaili esoterism with the Guenon/Schuon philosophy based on esoteric and sapiential teachings of Platonism, Vedanta, Sufism, and Budhism" (p.35).

The Ijmali school includes Sardar, S. Parvez Manzoor,



Munawar A. Anees, Gulzar Haider, Merryl Wyn Davies, Mohammad Iqbal Asaria, and Ibrahim Sulieman. The Ijmalis seek a synthesis within an Islamic aesthetic framework. They are united by "a methodology of conceptual analysis ... which aims at synthesis and future-oriented expressions of the values of Islam in all aspects of contemporary thought and life" (p.37).

The Aligarh school refers to those scholars located at the Centre for Studies on Science (CSOS) in Aligarh, India. The Aligarh school emphasizes criticism and methodology, according to Sardar. This group includes Mohammad Zaki Kirmani, who wrote the previous analytical paper, Mohammad Riaz Kirmani, M. Kaleemur Rahman, and Rais Ahmad.

The fourth school advocates a traditional position on science, according to Sardar. "This view, or ideology, sees science as a universal, objective pursuit of Truth" (p.38). This group includes Muhammad Abdus Salam, Ali Kettani, S. Waqar A. Husaini, Z. R. al-Nejjar, and Jamal Mimouni.

Sardar's (1988) more recent analysis is different from his own earlier (1979) analysis. In his more recent analysis, Sardar has moved S. Waqar A. Husaini from the group advocating the most radical change in 1979 to the most conservative group which advocates a traditional view of science. Sardar also states that S. H. Nasr, whose work he sites in 1979 as one of two factors which led to the development of Islamic science, holds a view which has nothing to do with Islam. S. H. Nasr's

"discourse is neither about Islam, nor about science" (1988, p.54). Thus, Sardar attempts to distinguish the Ijmali position from the competing positions while at the same time portraying the alternatives as either part of the traditional approach to science in the case of Husaini or as non-Islamic in the case of Nasr.

The Ijmalis have changed their legitimation strategy from being very inclusive to being very exclusive. Sardar's change of his analysis of the Islamization of knowledge debate between 1979 and 1988 is one example of this which was reviewed earlier. A step by step analysis of the shift from inclusive to exclusive strategies is available by examining the Ijmali's writings.

By 1984, five years after Sardar's (1979) first analysis appeared in *Nature*, the advocates of Islamic science gained enough legitimacy for Sardar to attack the most traditional Western science position which he again attacked the following year (Sardar 1985a, 1984b). In his critique, Sardar (1985a) uses the same legitimation techniques used by the advocates of the traditional position -- he cites numerous Western scholars in support of his position. From this point forward, the advocates of the traditional position, with the few exceptions discussed previously, are excluded from the discourse.

Another example of Sardar's (1985a) change is his critique of al-Faruqi's (1982) thesis. At this point in the

development of the Islamization of knowledge, the al-Faruqi/IIIT plan was gaining more and more legitimacy. Al-Faruqi was still alive and promoting his work plan plus he had the IIIT and AMSS as institutional bases of operation. Through these institutional bases, the advocates of the plan were able to publish in *The American Journal of Islamic Social Sciences* and sponsor seminars and conferences, as well as, have a full-time staff at the IIIT working toward the same goal. The Ijmalis needed to counteract the success of the IIIT plan which was so different from there own. Sardar, therefore, severely criticized al-Faruqi's plan while at the same time not criticizing his motivations:

It is to al-Faruqi's credit that he has the vision to conceive and carry out such an ambitious, but nevertheless vital, programme. It is, therefore, rather unfortunate that his programme for the Islamization of knowledge is fundamentally flawed and somewhat naive. (Sardar 1985a, p.98)

In his critique, Sardar played the authenticity card claiming that al-Faruqi does not tackle the real problem which is Western epistemology. According to Sardar, al-Faruqi accepts Western epistemology by the acceptance of the Western disciplinary divisions of knowledge rather than reclassifying knowledge according to authentic Islamic principles:

To accept the disciplinary divisions of knowledge as they exist in Western epistemology is to make the world-view of Islam subordinate to the Western civilization .... It is not Islam that needs to be made relevant to modern knowledge; it is modern knowledge that needs to be made relevant to Islam.

Islam is *a priori* relevant for all times. (Sardar 1985a, p. 101)

The Ijmalis had started to differentiate their position from the positions held by other advocates of the Islamization of knowledge. The implications of this in-fighting are significant. The existence of public internal conflict implies that the Islamization of knowledge was gaining legitimacy. Otherwise, the Ijmalis, by starting public, internal feuds, would be jeopardizing their position as well as that of the Islamization movement.

The Ijmalis also had an institutionalized voice at this point -- the short-lived journal *Inquiry*. The control of this journal, along with the expanding legitimacy of the Islamization of knowledge movement in general, allowed the Ijmalis to distance themselves from both those that held a traditional view of science and those that held different views on how the Islamization of knowledge should proceed without enormous risk.

A second example of the extremely exclusive position developed by the Ijmalis is Anees (1987). In his introduction to a bibliography of literature concerning Islamic science, Anees casually attacks the quality of the positions held by S. H. Nasr, W. A. Husaini, Bucaille and Moore, M. Abdus Salam, the "Science in Islamic Polity" Conference, the Islamic Foundation for Science, Technology and Development (IFSTAD),

the Islamic Scientific, Educational and Cultural Organization (ISESCO), the Organisation of Islamic Conference (OIC) Committee on Science and Technology, and indirectly the IIIT. The only complimentary words he had were for Ziauddin Sardar, a fellow Ijmali, and the CSOS seminar and book *Quest for New Science* though he did criticize this in part. Thus, Anees distanced himself and the Ijmalis from every position other than their own. Anees and the Ijmalis are repositioning themselves within the Islamization of knowledge debate as the only alternative to the traditional approach to science.

Next came Sardar's (1988) second in depth analysis which was previously discussed. To summarize, Sardar depicts the one individual, S. H. Nasr, who both critiques Western epistemology and offers an alternative Islamic epistemological foundation on which to build Islamic science as un-Islamic. S. H. Nasr, who Kirmani (1987) of the CSOS says "still occupies the most prominent and influential position among proponents of Islamic science" (p.54), was previously called by Sardar (1979) one of the earliest instigators of Islamic science. In addition, Nasr is the only real alternative to the Ijmali position which addresses the issues in similar terms -- i.e. who can threaten the Ijmali claim to authenticity. By 1988, Sardar links what he sees as Nasr's intellectual position with inspiring everything from the occult to Nazism. Sardar states: "A study of Nasr's oeuvre

leads to the conclusion that ... his discourse is neither about Islam, nor about science ... it is a purely totalitarian enterprises (sic) (p.54). According to Sardar, Nasr's "underlying metaphysics," characterized as a form of gnosticism, "is not entirely new":

For example, the emergence in the late nineteenth century of the *volkishch* ideology in Germany and Austria owes a great deal to this type of metaphysical framework. This ideology ... led to the theories of Aryan German racial excellence and eventually to the emergence of the Third Reich. (1988, p.55)

The Ijmalis are engaged in a disciplinary power struggle.

The second nativistic model is that of Seyyed Hossein Nasr, and a small group, most notably Osman Bakar. In Nasr's view, the first step toward an Islamic science is to stop imitating the way the West studies Islamic science and to view Islamic science "in an integral manner as part and parcel of the total Islamic intellectual tradition" (Nasr 1985, p.7). Another obstacle which must be removed is the attribution of the entire problem of Western science to the realm of technological applications while inappropriately considering Western science, itself, to be neutral. "The unethical character of the use and misuse of modern technology is certainly an important issue to be reckoned with, but to correct such faults does not aid in making modern science Islamic" (ibid).

From Nasr's perspective, an Islamic science must be

established according to Islamic principles. For Nasr, the fundamental Islamic principles include:

the sacredness of all 'ilm, the hierarchy of knowledge which places the knowledge of God above any science of His creation, the inter-relatedness of all orders of reality, the sacred character of the phenomena of nature as the signs (*ayat*) of God, nature's participation in the Quranic revelation, the domination of the vertical cause or the Divine Will over all horizontal causes without the negation of these secondary causes (*ibid*).

While most of these principles are similar to those of the Ijmalis and the other advocates of the Islamization of knowledge, Nasr is almost alone in his explicit extension of credibility to the notion that *ayat* are interpretable from nature and nature having a role in Quranic revelation. This derives from the Islamic Sufi tradition which is the esoteric or mystical strand of Islam. According to Denny (1985), the well-known Islamic scholar, *shariah* is associated with the external aspects of Islam, i.e. Islamic law and the correct structure of society while *tariqa* is associated with the inner way, i.e. the search for hidden meanings and the like. *Shariah* and *tariqa* are complementary and neither has an exclusive claim to truth, but *shariah* is broader because it applies to all Muslims (Denny 1985).

Nasr's group's legitimation relies on authenticity and Nasr's own stature within the Islamization of knowledge movement. Early in the Islamization of knowledge movement, Nasr was successful using the strategy of authenticity because

his position was practically the only position. Nasr's best known publications are probably his 1968 book *Science and Civilization in Islam* and his 1976 book *Islamic Science: An Illustrated Study*. Both the books were published before the Islamization of knowledge movement had begun in earnest. Nasr, therefore, had the only claim of representing authentic Islam.

As the Islamization of knowledge movement progressed, he and his followers have lost their exclusive position. Nasr's representation of authentic Islam is challenged most forcefully by the Ijmalis, but Nasr's representation of Islam is also challenged by others. One example is Jamal Mimouni (1987) who holds a traditional view toward science.

S. H. Nasr and his followers are retrenching. Nasr is repositioning himself within the discourse. In his paper "Islam and the Problem of Modern Science" (1988), Nasr praises positions which are nearly identical with those of W. A. Husaini and the IIIT, and he emphasizes the need for studies similar to those done by the scholars at CSOS. Near the end of his paper, after briefly describing the various approaches to the Islamization of knowledge, Nasr asks that:

All of these groups as well as others must be allowed to debate and discuss the momentous issues at hand. This is a field where the saying of the Prophet, "The difference between the scholars of my *ummah* is a mercy for the world" applies perfectly. The intellectual endeavors which are authentically Islamic and in conformity with the nature of the



problem at hand cannot but finally (sic) win the day. There is a need for lucidity, objectivity, perseverance and magnanimity in a *jihad* upon whose outcome depends the welfare of the whole of the Islamic world. (1988, pp.55-56)

The nativistic models of science have a different ideology than the indigenization models. The difference between the indigenization approach and the nativistic approach is a qualitative one. While both seek a change in power relations, and both use the key concepts of relevance and authenticity, the difference is in emphasis. While nativistic models do seek relevance, authenticity is the primary objective. For advocates of the nativistic models, authenticity leads to relevance. This leads to a difference in legitimation strategies -- nativistic models emphasize authenticity at the foundational level in their legitimation strategies.

## Chapter 6 -- Conclusion

In summary, the call for the Islamization of knowledge arose within the context of a perceived civilizational crisis -- a crisis which all advocates of the Islamization of knowledge recognize. The Muslim intellectuals responded more directly to the crisis of the intellectuals which is a crisis in the legitimacy of the education for development model. The Muslim intellectuals' response to this crisis can best be conceptualized as indigenization and nativization movements which are attempts to change the institutionalized power relationships. The difference between these concepts in the context of the Islamization of knowledge is that indigenization movements stress the relevance to contemporary problems while nativization movements stress cultural authenticity.

The legitimation strategies of the various groups within the Islamization of knowledge movement are intimately related with these concepts of indigenization and nativization. The legitimation strategies used by the advocates of the Islamization of knowledge have changed over time. The change is due to the increasing legitimacy and power that the Islamization of knowledge has gained in the last two decades. This increasing legitimacy has led to the exclusion of the

most traditional views on science and to disciplinary infighting between advocates of different Islamization strategies.

The three approaches to science are using different legitimation strategies and have different objectives. The advocates of the traditional approach are trying to maintain the status quo only with an increase in funding which they argue will allow science and technology to produce the same success it is perceived to have produced for other countries. The advocates of the indigenization approach are trying to change power relationships in their favor by constructing social scientists or scientists and engineers as the modern *ulama* who would make policy-decisions based on their possession of knowledge relevant to Islamic civilization. The advocates of the nativization approach are trying to change power relationships in their favor by reconstructing science from its epistemological foundations using Islamic concepts.

Each group of advocates is struggling to establish legitimacy with the various groups and institutions that possess power and authority to influence the outcome of the Islamization of knowledge controversy. These include the national governments which establish national educational and funding policies, the policy-makers within university systems, the international community of scholars (both Muslim and non-Muslim), and the general public.

At this point, the future of the movement is not clear. While the Ijmalis are attempting to gain *ijm* by discrediting the other positions, the IIIT is engaged in actualizing their work plan. Waqar A. Husaini, the few advocates of the traditional model of science, and S. H. Nasr continue to push their own programs in the discourse. CSOS, meanwhile, continues to facilitate the debate through their journal and by sponsoring conferences. The scholars at the CSOS also contribute to the debate through critical analyses of the various positions and through original contributions in the history, philosophy, and sociology of Islamic science.

#### **Limitations and Future Plans**

The limitations of this paper include the total reliance on library materials. It would have been useful to conduct interviews with the advocates of the various positions. A second limitation was that only English documents were utilized for the study. While most of the important texts are written in English, a comparison with texts written in Arabic and other languages would be useful. I plan to visit the IIIT in the very near future in order to fill some of these gaps. A third limitation is my inability to assess the popular influence of the Islamization of knowledge movement. The influence on students could be particularly useful to know. Unfortunately, I do not have the resources to examine this

aspect.

In the future, I wish to study the Islamization of knowledge movement ethnographically in order to examine several conceptual problems. For example, I would like to examine the contextuality of the Islamization of knowledge movement -- how do the various advocates of Islamization represent themselves and how are they perceived in different settings. The contextuality issue needs to be examined especially at the analytical level of the nation state.

I would also like to explore the daily operations of one or both of the major centers -- IIIT and CSOS -- ethnographically and through the use of extensive interviews with all the participants. The various participants backgrounds could be examined in this way which would, in turn, lead to an understanding of the motivations of these participants. Why was the Islamization of knowledge appealing and what motivates a participant's particular view of Islamization?

Also, a comparison of the legitimation strategies used by the various advocates of alternative science -- feminist science, various indigenization movements, the peace movement, and the environmental movements -- would be extremely useful. Do these groups conceptualize the problems with science the same way? What do the groups propose for solutions?

In conclusion, as many questions are as unanswered as are

answered. However, this thesis is the first step in better understanding the legitimation and representation of science in the Middle East. I hope to publish this thesis in order to promote the study of the Islamization of knowledge and related issues -- particularly the examination of science as it is constructed in non-Euroamerican contexts. I also hope to present my research findings at professional conferences and/or seminars in order to facilitate awareness of the extensive research possibilities on science and technology in non-Euroamerican contexts.

## **Appendix A: Glossary of Arabic terminology.**

Adl	Equity or justice.
Al-Azhar	University located in Cairo. Founded in 970 A.D., it is the oldest university in the Middle East.
Allah	The one true God for Muslims.
Ayat	Signs of Allah to be interpreted from the Quran and for some from nature.
Dhiya	Waste.
Fard Kifaya	A social obligation.
Halal	Permitted.
Haram	Prohibited or forbidden.
Ibadah	Worship.
Ijm	Consensus of the Ummah.
Ijmalis	A group of Muslim scholars that advocate a revival of Islam in the world.
Ilm	Knowledge or science.
Istislah	Public interest.
Khalifat	Trusteeship, formerly the leader of the Ummah.
Quran	The word of Allah as revealed to the world through the Prophet Muhammad. The Islamic holy book.
Shariah	Islamic law.
Sunna	Custom, especially of the Prophet Muhammad.

Tadrij	Gradualism
Taqwa	Allah consciousness.
Tariqa	The inner way of Islam. Associated with Sufi Islam.
Tawheed	Unity of Allah; there is only one God.
Taysir	Small compromising steps.
Ulama	Muslim holy men; religious and legal scholars.
Ulum Aqaliyya	Knowledge disciplines derived from pure reason and experience.
Ulum Shariyya	Knowledge disciplines derived directly from Islamic principles.
Ummah	The Muslim community.
Zulm	Oppression.



**Appendix B: The Participants Involved in the  
Islamization of Knowledge Debate.**

Abdus Salam, M.:	Pakistani Nobel laureate physicist located at the International Centre for Theoretical Physics in Italy and a major supporter of the traditional approach to science in the debate.
Abu Sulayman, AbdulHamid:	Social scientist who has been an officer in both the AMSS and the IIIT. He backs the al-Faruqi/IIIT indigenization approach.
Ahmad, Rais:	Located at the CSOS.
Ahmed, Mashood:	Sociologist of Islamic science located at the CSOS.
Al-Faruqi, Ismail R. (late):	Social scientist and major protagonist of the al-Faruqi/IIIT indigenization plan.
Anees, Munawar A.:	A biologist and a member of the Ijmalis.
Asaria, Mohammad Iqbal:	A member of the Ijmalis.
Bakar, Osman:	Historian of Islamic science who is probably the most notable follower of S. H. Nasr's nativization approach.
Bucaille, Maurice:	Claims that all modern science theories are revealed in the Quran.
Davies, Merryl Wyn:	Muslim anthropologist and a member of the Ijmalis.

Haider, Gulzar:	Architect located in Canada and a member of the Ijmalis.
Husaini, S. Waqar:	Engineer and major protagonist of his own indigenization approach which includes the imitation-innovation assimilation model.
Kettani, Ali:	Director General of IFSTAD.
Kirmani, M. Riaz:	A philosopher of Islamic science located at CSOS.
Kirmani, M. Zaki:	Director of the CSOS. Prominent contributor to the discussion of Islamic science.
Manzoor, S. Parvez:	A geologist and linguist and a member of the Ijmalis.
Mimouni, Jamal:	Algerian physicist and strong supporter of the traditional approach to science.
Nasr, Seyyed Hossein:	Historian of Islamic science and a major protagonist of his own nativistic position which utilizes Islamic Sufi philosophy.
Nasseef, Abdullah O.:	Muslim scientist who holds a position similar to the al-Faruqi/IIIT plan.
Rahman, M. Kaleemur:	An Indian scientist (fish cultures) who is heavily involved in the debate and is located at the CSOS.
Sardar, Ziauddin:	Independent scholar and journalist and the most outspoken advocate for the Ijmalis.
Sulieman, Ibrahim:	A member of the Ijmalis.

## Bibliography

- Abaza, Mona and Georg Stauth  
1990 "Occidental Reason, Orientalism, Islamic Fundamentalism: A Critique," in Albrow, Martin and Elizabeth King (eds.) *Globalization, Knowledge and Society*. London: Sage Publications.
- Abdus Salam, M.  
1989 "Scientific Thinking Between Secularisation and The Transcendent: An Islamic Viewpoint," *MAAS Journal of Islamic Science*. 5(1):133-150.  
1986 "Islam and Science," *MAAS Journal of Islamic Science*. 2(1):21-46.
- AbuSulayman, AbdulHamid.  
1989 *Islamization of Knowledge: General Principles and Work Plan, Second Edition*. Herndon: International Institute of Islamic Thought.
- Ahmad, Rais and Syed Naseem Ahmad.  
1984 *Quest for New Science*. Aligarh: Centre for Studies on Science.
- Albornoz, Orlando.  
1989 "Education and Development Revisited: A Sociological Perspective," *International Sociology*. 4(3):272-291.
- Albrow, Martin and Elizabeth King.  
1990 *Globalization, Knowledge and Society*. London: Sage Publications.
- Al-Faruqi, Ismail R.  
1982 *Islamization of Knowledge: General Principles and Work Plan*. Washington: International Institute of Islamic Thought.
- Al-Faruqi, I.R. and A.O. Nasseef  
1981 *Social and Natural Sciences: The Islamic Perspective*. London: Hodder and Stoughton.
- Anees, Munawar Ahmad.  
1987 "Islamic Science: A Bibliography of Contemporary Literature," *MAAS Journal of Islamic Science*. 3(2):109-121.

- Asad, Talal.  
1973 *Anthropology & the Colonial Encounter*. London: Ithaca Press.
- Atal, Yogesh.  
1981 "The Call for Indigenization," *International Social Science Journal*. 33:189-197.
- Boullata, Issa J.  
1990 *Trends and Issues in Contemporary Arab Thought*. Albany: SUNY Press.
- Cohen, Ronald.  
1988 "Introduction," in Cohen, Ronald and Judith D. Toland (eds.) *State Formation and Political Legitimacy*. New Brunswick: Transaction Books.
- Cohen, Ronald and Judith D. Toland.  
1988 *State Formation and Political Legitimacy*. New Brunswick: Transaction Books.
- Dekmejian, R. Hrair.  
1980 "The Anatomy of Islamic Revival: Legitimacy Crisis, Ethnic Conflict and the Search for Islamic Alternatives," *Middle East Journal*. 34:1-12.
- Denny, Frederick M.  
1985 *An Introduction to Islam*. New York: Macmillan Publishing Company.
- Dhaouadi, Mahmoud.  
1990 "An Operational Analysis of the Phenomenon of the Other Underdevelopment in the Arab World and in the Third World," in Albrow, Martin and Elizabeth King (eds.) *Globalization, Knowledge and Society*. London: Sage Publications.
- Faksh, M.A.  
1980 "The Consequences of the Introduction and Spread of Modern Education: Education and National Integration in Egypt," *Middle East Studies*. 16(2):42-55.  
1977 "The Chimera of Education for Development in Egypt: The Socio-Economic Role of University Graduates," *Middle East Studies*. 13:229-240.
- Fanon, F.  
1967 *Black Skin, White Masks*. New York: Grove Press.

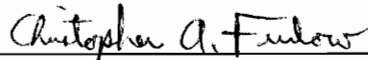
- 1963 *The Wretched of the Earth*. London: Presence Africaine.
- Farooqi, Hisamuddin.  
 1984 "Presidential Address," in Ahmad, Rais and Syed Naseem Ahmad (eds.) *Quest for New Science*. Aligarh: Centre for Studies on Science.
- Fuhrman, Ellsworth and Erkki Kaukonen.  
 1988 "On the Circulation and Legitimation of Social Science Knowledge: The Case of Finnish Sociology," *Social Epistemology*. 2(1):43-59.
- Gareau, Frederick H.  
 1991 *The Political Economy of the Social Sciences*. New York: Garland Publishing.  
 1988 "Another Type of Third World Dependency: The Social Sciences," *International Sociology*. 3(2):171-178.  
 1983 "The Multinational Version of Social Science," *International Social Science Journal*. 35(2):379-390.
- Husaini, Waqar A.  
 1985 "Towards the Rebirth and Development of Shariyyah Science and Technology," *MAAS Journal of Islamic Science*. 1(2):81-94.  
 1981 "Humanistic Social Sciences -- Studies in Higher Technical Education," in Al-Faruqi, Ismail R. and A. O. Nasseef (eds.) *Social and Natural Sciences: The Islamic Perspective*. London: Hodder and Stoughton.  
 1980 *Islamic Environmental Systems Engineering*. London: Macmillan Press.
- Kennedy, Mark C.  
 1991 "Dilemmas in Middle Eastern Social Sciences: Contours of the Problem of Relevance of Western Paradigms as Guides to Research, Policy and Practice," in Sullivan, Earl L. and Jacqueline S. Ismael (eds.) *The Contemporary Study of the Arab World*. Edmonton: University of Alberta Press.
- Kirmani, Mohammad Zaki.  
 1987 "Issues in Islamic Science," *MAAS Journal of Islamic Science*. 3(2):41-69.
- Kumar, Krishna.  
 1979a "Indigenization and Transnational Cooperation in the Social Sciences," in Kumar, Krishna (ed.) *Bonds*

- Without Bondage. Honolulu: East-West Cultural Learning Institute.
- 1979b *Bonds Without Bondage*. Honolulu: East-West Learning Institute.
- Laroui, Abdallah
- 1976 *The Crisis of the Arab Intellectual: Traditionalism or Historicism?*. Berkeley: University of California Press.
- Loubser, Jan L.
- 1988 "The Need for the Indigenisation of the Social Sciences," *International Sociology*. 3(2):179-187.
- McDonald, Mary.
- 1986 "Egyptian Education and Development," *Journal of Arab Affairs*. 5(1):59-80.
- Merton, Robert K.
- 1973 *Sociology of Science*. Chicago: University of Chicago Press.
- Mimouni, Jamal.
- 1987 "A Reply to 'What Islamic Science is Not,'" *MAAS Journal of Islamic Science*. 3(1):85-89.
- Morsy, Soheir, Cynthia Nelson, Reem Saad, and Hania Sholkamy
- 1991 "Anthropology and the Call for Indigenization of Social Science in the Arab World," in Sullivan, Earl L. and Jacqueline S. Ismael (eds.) *The Contemporary Study of the Arab World*. Edmonton: University of Alberta Press.
- Nasr, Seyyed Hossein.
- 1985 "On the Perspective," *MAAS Journal of Islamic Science*. 1(2):6-8.
- 1968 *Science and Civilization in Islam*. Cambridge: Harvard University Press.
- Park, Peter.
- 1988 "Toward an Emancipatory Sociology: Abandoning Universalism for True Indigenisation," *International Sociology*. 3(2):161-170.
- Qurashi, M. M. and S. M. A. Shah.
- 1983a *Islamic Scientific Thought and Muslim Achievements in Science, Vol. I*. Islamabad: Ministry of Science and Technology.
- 1983b *Islamic Scientific Thought and Muslim Achievements*

- in Science and Technology, Vol. II.* Islamabad: Ministry of Science and Technology.
- 1983c *S&T Potential and its Development in the Muslim World, Vol. I.* Islamabad: Ministry of Science and Technology.
- 1983d *S&T Potential and its Development in the Muslim World, Vol. II.* Islamabad: Ministry of Science and Technology.
- Radwan, Abu Al-Futouh Ahmad.
- 1951 *Old and New Forces in Egyptian Education.* New York: Teachers College, Columbia University.
- Rahman, M. Kaleemur.
- 1985 "Perspective of the New Science," *MAAS Journal of Islamic Science.* 1(2):75-80.
- Sardar, Ziauddin.
- 1988 "Where's Where? Mapping Out the Future of Islamic Science (Part-I)," *MAAS Journal of Islamic Science.* 4(2):35-63.
- 1985a *Islamic Futures: The Shape of Ideas to Come.* London: Mansell Publishing Limited.
- 1985b "Islamic Science or Science in Islamic Polity: What is the Difference?," *MAAS Journal for Islamic Science.* 1(1):31-44.
- 1984a "Arguments for Islamic Science," in Ahmad, Rais and Syed Naseem Ahmad (eds.) *Quest for New Science.* Aligarh: Centre for Studies on Science.
- 1984b "Islamic Science or Science in Islamic Polity," *Pakistan Studies.* 2(3):3-16.
- 1979 "A Revival for Islam, A Boost for Science?," *Nature.* 282(22 November):354-357.
- Shami, Seteney.
- 1989 "Socio-cultural Anthropology in Arab Universities," *Current Anthropology.* 30:649-654.
- Sullivan, Earl L. and Jacqueline S. Ismael.
- 1991 *The Contemporary Study of the Arab World.* Edmonton: University of Alberta Press.
- Turner, Victor.
- 1971 *Colonialism in Africa 1870-1960.* Cambridge: Cambridge University Press.
- Weber, Max.
- 1968 *On Charisma and Institution Building.* Chicago: University of Chicago Press.

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